# Textile Industries

*Formerly "COTTON"*

*A. W. R. C. Smith Publication*

APRIL, 1953

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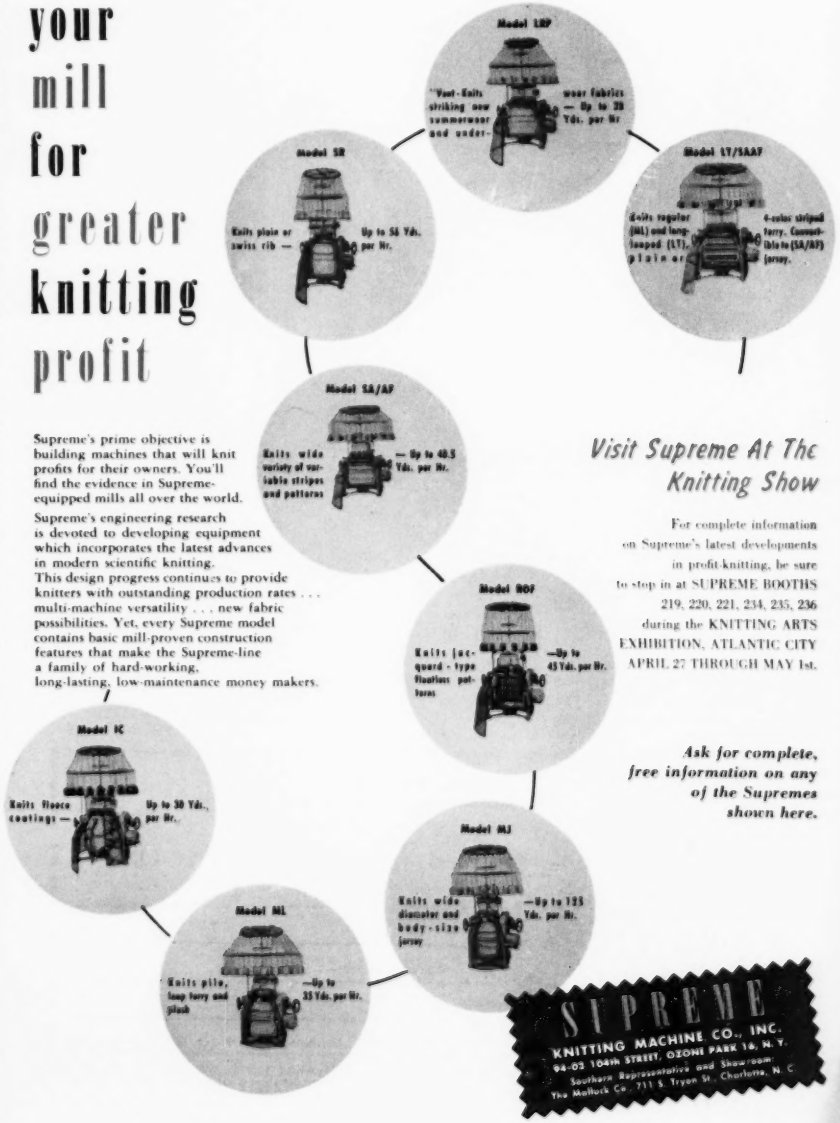
Supreme-line

your mill for greater knitting profit


Model LRF
Model SR
Knits plain or swiss rib —
Up to 56 Yds. per Hr.
Model LT/SAAF
Model SA/AF
Knits wide variety of variable stripes and patterns
— Up to 48.5 Yds. per Hr.
Model ROF
Knits jacquard - type floatless patterns
—Up to 45 Yds. per Hr.
Model IC
Knits fleece coatings —
Up to 50 Yds. per Hr.
Model MJ
Knits wide diameter and body - size jersey
—Up to 125 Yds. per Hr.
Model ML
Knits pile, loop terry and plush
—Up to 35 Yds. per Hr.

Supreme's prime objective is building machines that will knit profits for their owners. You'll find the evidence in Supreme-equipped mills all over the world.

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SK-165

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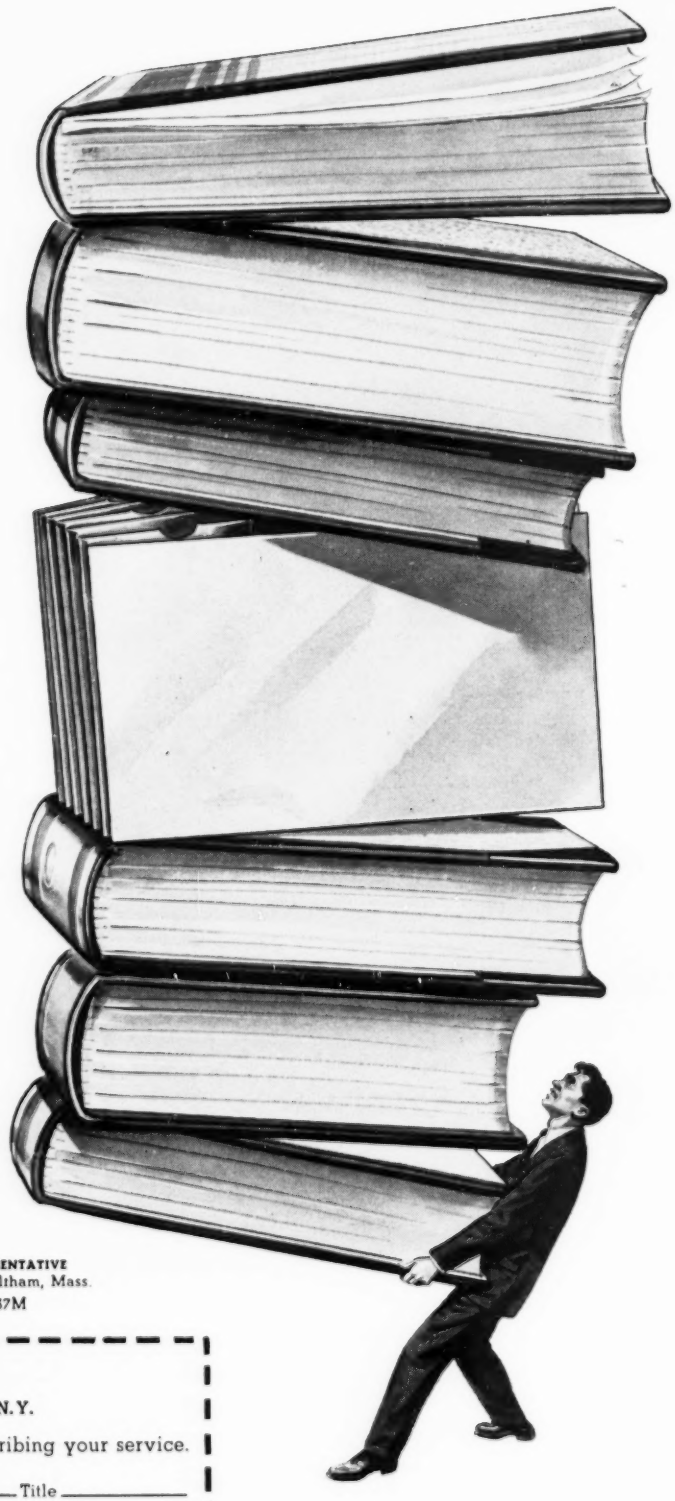

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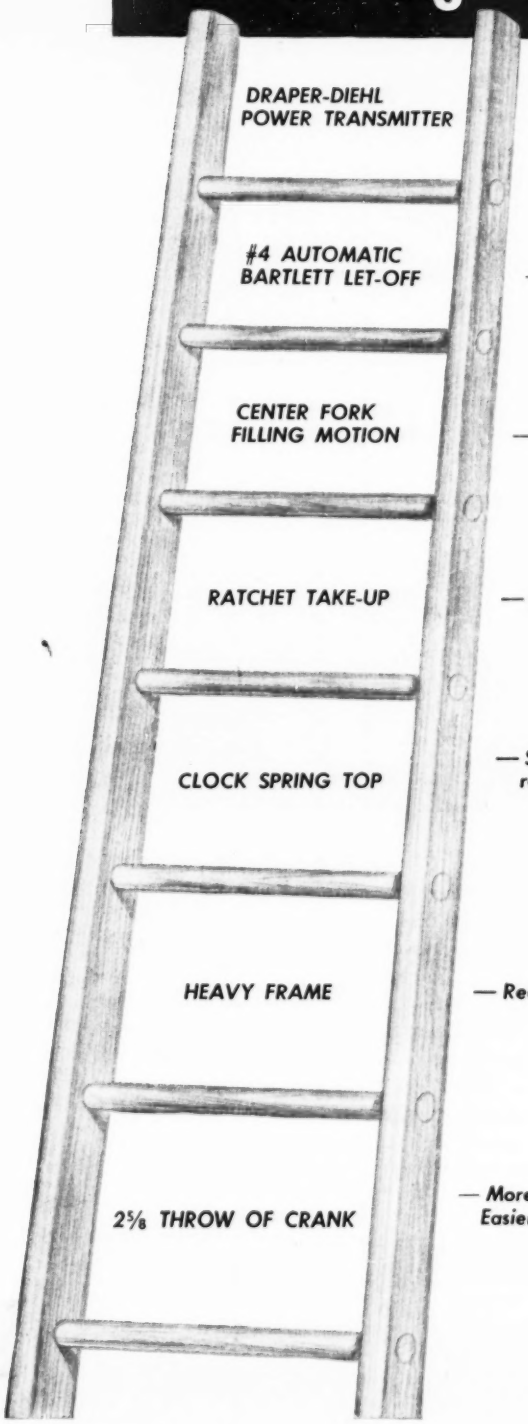
Volume 117 Number 4

# Climb to Success...

## weaving QUALITY COTTONS

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— *Stops on Broken Pick.*

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— *Reduced vibration.*

— *More Shuttle flight time — Easier boxing.*

**on**

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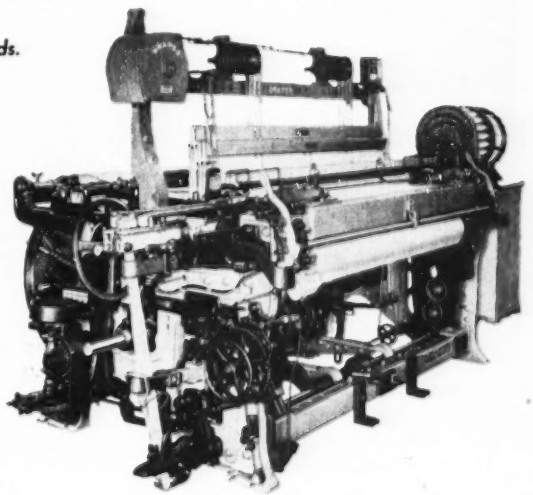

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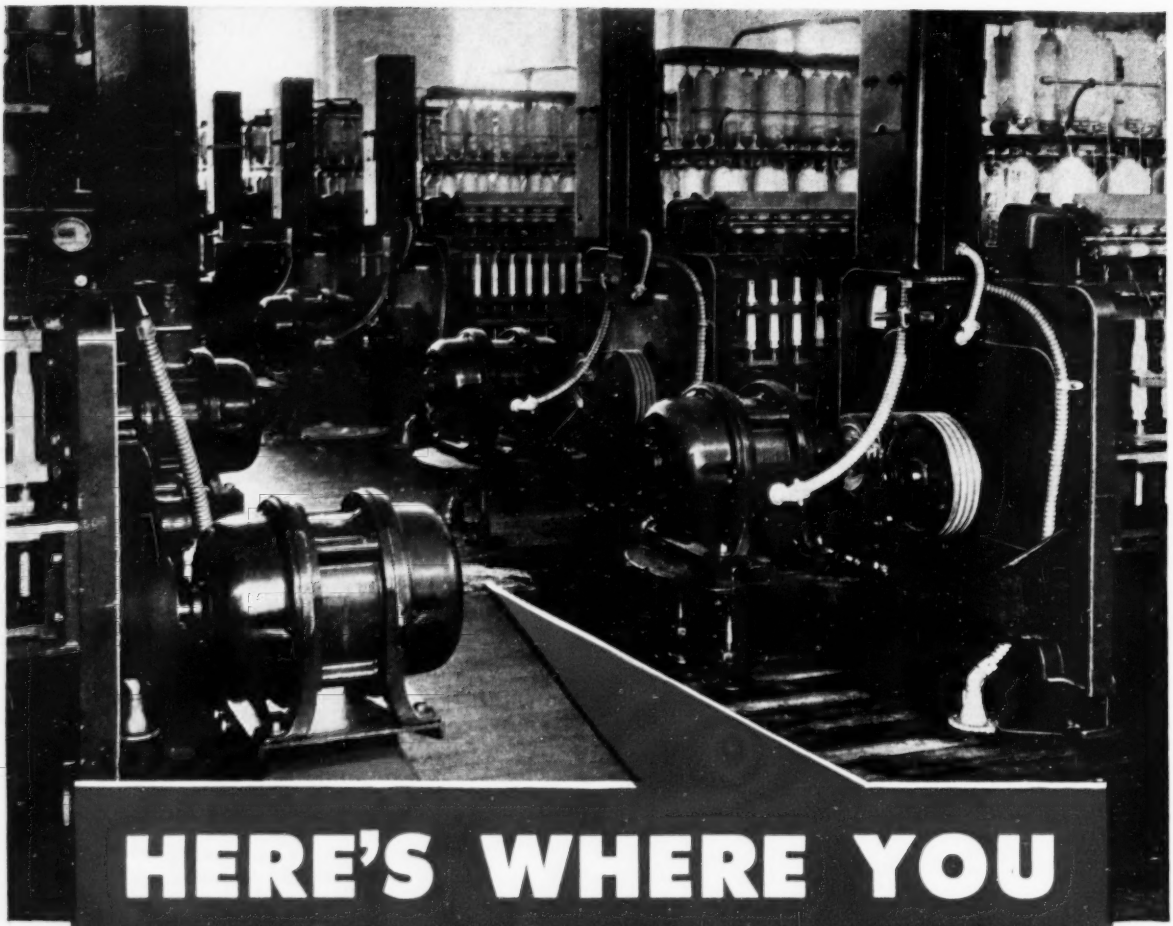

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**HERE'S HOW** you can do it: Use *Texaco Regal Starfak* in your high-speed, grease-lubricated ball and roller bearings. You'll reduce: 1) your maintenance costs; 2) your power costs; and 3) your lubrication costs.

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There are Texaco Lubricants for all textile machines. Let a Texaco Lubrication Engineer show you how they can cut your costs. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

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## TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN . . . TEXACO STAR THEATER starring MILTON BERLE, on television Tuesday nights. METROPOLITAN OPERA radio broadcasts Saturday afternoons.

Vol. 117, No. 4

# Textile Industries

Formerly "COTTON"

April, 1953

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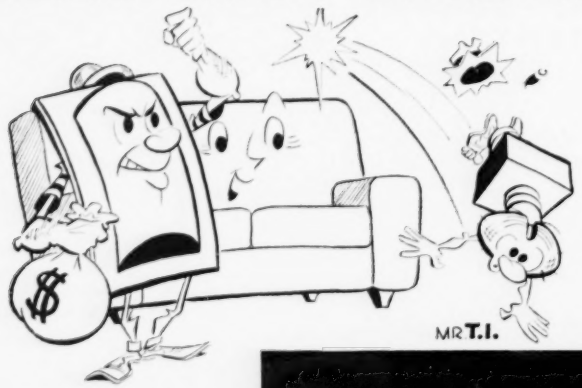
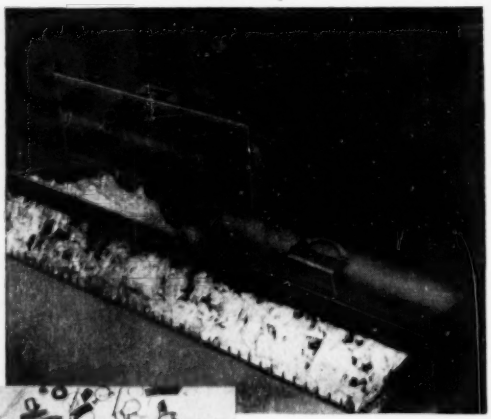
**FURNITURE MANUFACTURER Reports:**

# ERIEZ SPIKED APRON MAGNETS INCREASE GARNETT CLOTHING LIFE 300%



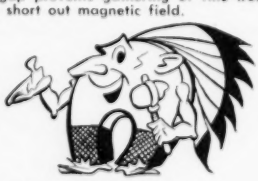

Preventing $5400 damage to garnetts in 3 years' time . . . increasing the life of garnett clothing three times . . . precluding fires in process lines . . . eliminating costly downtime — that's the fine record of three 58" Eriez Spiked Apron Magnets at the Chicago plant of a leading furniture manufacturer. Installed on feeders ahead of the garnetts, the magnets pull several pounds of tacks, staples and other tramp iron each day from waste cotton used to make batting for the company's cushions and other fine upholstered furniture. "The Eriez Spiked Apron Magnets are doing such a fine job of eliminating tramp iron from our lines, that operation without them would now be unthinkable!"



Eriez Spiked Apron Magnet was the first permanent magnet specifically designed for textile applications. Brackets, hinges, textile lift handles . . . everything necessary to mount and put into operation are included in the package. With Eriez Spiked Apron Magnets on your feeders, no tramp iron can ever get through to chew up cards, garnetts, etc., or to start fires!

**Here are 5 features exclusive with Eriez magnetic separators:**

1. Riveted construction adds rigidity . . . increases structural strength.
2. Cover adds to longitudinal stiffness . . . prevents tampering and accumulation of iron on backs of castings with consequent shorting of magnetic circuit.
3. Two-section magnet . . . makes cleaning quick, simple, easy.
4. Insulation confines magnetic strength to working surface . . . no bleeding to surrounding areas.
5. Flush air gap prevents gathering of fine iron which can short out magnetic field.



Write today for FREE 6-page Bulletin 563 which describes all Eriez magnetic separator installations for the textile industry.

ERIEZ MANUFACTURING COMPANY

12 Magnet Drive • Erie, Pennsylvania

***Nine Out of Ten Textile Mills Specify ERIEZ***

► A doctor buries his mistakes, a mistaken architect tells the house owner to plant vines—but editors?: the prominent politician had made a failure of everything he tried, so he was made editor of his father's farm paper, with the comment that "an editor can do no harm—so long as he has a good business manager." No comment.

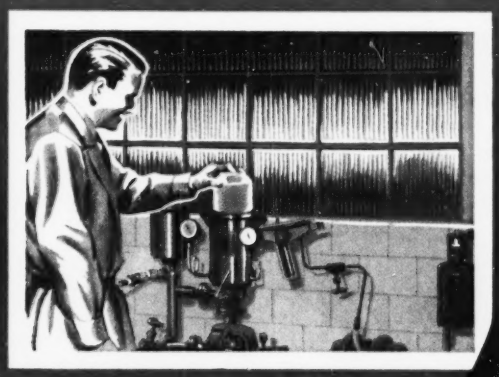
► Out of a clear sky, we were flooded with inquiries from Wisconsin housewives who wanted to know how they could make neckties at home. Wish we knew. Seems that the "Milwaukee Sentinel" had told its readers to write us. Turnabout is fair play. If you want to know how to publish a newspaper at home, write the "Sentinel."

► When one of our good South American friends visited the U. S. mills recently, few were able to pronounce his name properly. He quickly earned the simplified cognomen of "Goodness Gracious." Why don't we Americans learn foreign languages? Carramba!

► Speaking of names, there's the one about the shine boy who told his customer his name was "George Washington," whereupon the customer replied, "that's a pretty well-known name, isn't it?" The boy seriously said, "Yas, suh. I guess so; I've been shining shoes right here for twenty years."

► Names of long standing are indelible. We still get mail addressed to "Cotton" after all these years. And when our business department gets an advertisement addressed to "Textile Something-or-other," it's run in TI anyway. We know how it should have been addressed in the first place.

► But a lot of our good readers are used to the name "Textile Industries" and tell advertisers how they feel about its value to them. At the recent Greenville Show a competitor was making a strong bid with a current advertiser of TI, so he (the advertiser) conducted an on-the-spot survey by asking the next twelve men visiting the booth what textile publication they read and prefer. All



# Reveal that Hidden Beauty

More eye-appeal means more sales! Depend on DURA BEAU Finishes to give your product all the sales-allure that eye-appeal assures! Give your fabrics the time-tested, sales-tested DURA BEAU beauty treatment. A simple test-run will prove what this great textile "cosmetic" can do for your product!

The DURA BEAU GIRL of 1953

**Dura Beau** TEXTILE FINISHES

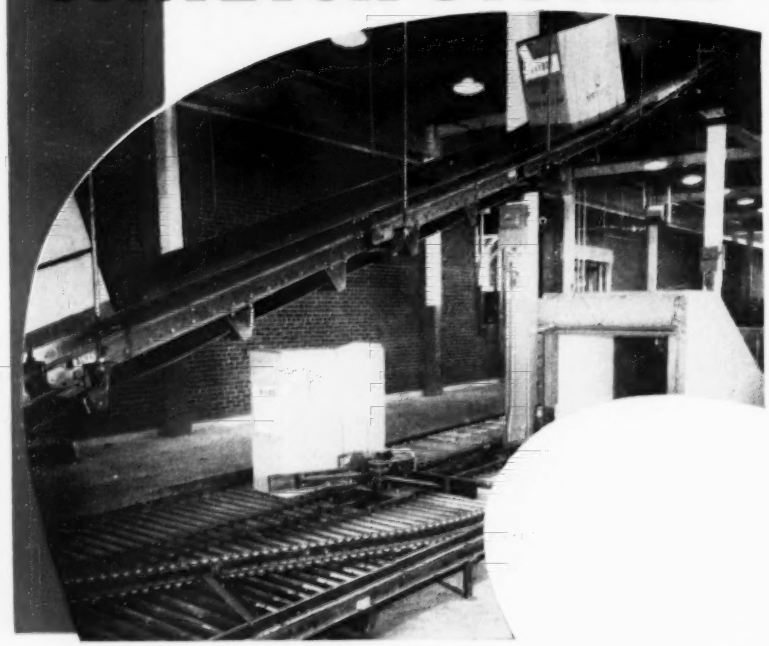
REG. U.S.A. and CANADA

*In the field of hosiery, for instance, DURA BEAU Finishes have been used—for decades—on more stockings than all other finishes combined! Write, wire or phone for one of our practical fieldmen.*

**SCHOLLER BROS., INC.** • Manufacturers of Soaps, Softeners, Sulfonated Oils and Finishes • Collins & Westmoreland Sts., Phila. 34, Pa.

IN CANADA: SCHOLLER BROS., LTD., ST. CATHARINES, ONTARIO

# Want to Keep Up to Date On ALVEY CONVEYOR SYSTEMS



If you are the man who has the responsibility for solving materials handling problems in your company, you should be informed about Alvey Package Conveyor Systems. You are sure to benefit from the broad knowledge and wide range of experience of Alvey engineers.

If you have a problem right now, we'll be glad to work with your technical staff toward developing the best solution. If you want material for future reference, write today, giving us your name and title. We'll be glad to send you information — from time to time — no obligation, of course.

## Engineered Package Handling Systems

Everytime YOU Man HANDLE A PACKAGE YOU ADD TO THE COST OF YOUR PRODUCT

ALVEY St. Louis

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Branch Offices in Principal Cities

ALV-65

**"You'll have to admit it's a short-cut in production."**

but two named TI first, and when none named our competitor, he took his wares elsewhere. Thank you, our friends, and we hope we continue to justify your naming TI tops.

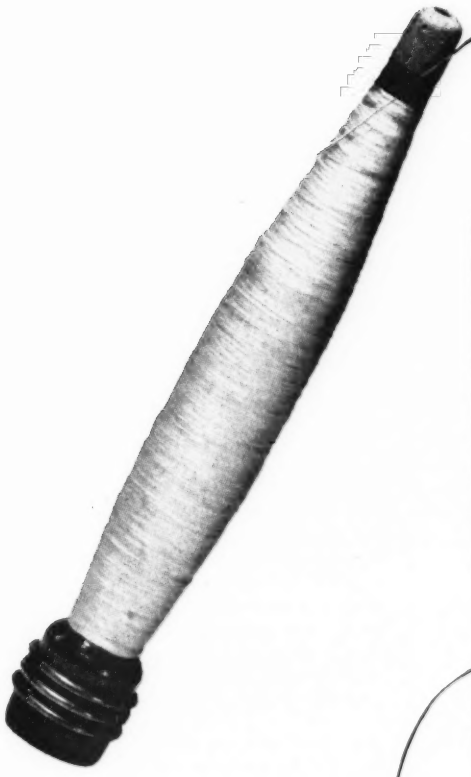
► This may top some things too. With new synthetic quick drying shirts, shorts, and crease-retaining suits, our luggage problem for traveling is solved. But since a lot of luggage also is made of synthetics, maybe somebody is borrowing from Peter to pay Paul. If we need fewer clothes and no luggage to travel, some people will be looking for work.

► Traveling does have its problems. Our secretary knows that current events control how we get about—depending on recent airplane crashes, train wrecks, or the accident toll on the highways. During a recent storm when all methods of travel got unfavorable publicity, she suggested that going by capillary action seemed safest.

► Another traveler, a Seabee, tells us of cotton trees in the New Hebrides that bear the year around. Just to show we won't enter the battle of the fibers, we remind our readers that sheep also bear the year around. The cotton tree sounds like a fine idea, but tough on mechanical cotton pickers. Monkeys might do the job.

► Then there is the traveling salesman for a new bobbin plant who passes out miniature bobbins—with the comment that he is just getting started in a small way.

► Notification comes that one of our textile associations and the union will terminate their contract. A good move, since the contract did little more than open the veins of the member mills. The textile business has always been highly competitive, and you have been able to get your throat cut quickly and



# For the trend to blends and lighter woolens . . . use SYTON

(Depth of Shading Indicates Syton's Increasing Effectiveness)

| WHERE CAN SYTON HELP YOU MOST? | Wool Grade | Average Minimum Count Commonly Spun | Average Maximum Count Commonly Spun |
|---|---|---|---|
| | 80s | 52 | 70 |
| | 70s | 48 | 60 |
| | 64s | 40 | 50 |
| | 60s | 30 | 44 |
| | 58s | 28 | 40 |
| | 56s | 20 | 36 |
| | 50s | 18 | 32 |
| | 48s | 18 | 28 |
| | 46s | 18 | 26 |
| | 44s | 16 | 24 |
| | 40s | 15 | 20 |
| | 36s | 6 | 16 |

**(Wool-synthetic blends show similar pattern of Syton's effectiveness)**

It seems certain that wool-synthetic blends will be even more popular this spring and summer . . . that clear-finished worsteds and lighter woolens should go over big next fall.

If you are spinning yarns for *any* of these fabrics, it will be worth your while to find out how Syton can increase the efficiency and economy of your spinning operation.

The chart above shows where Syton can be used most effectively in all-wool spinning. Since Syton increases inter-fiber friction, it is especially suited to wool-synthetic processing. (Syton causes the smooth synthetic staple to behave more like a serrated wool fiber.)

Whatever your wool grade, Syton enables you to spin more efficiently to lighter, finer counts, making a variety of new constructions possible. Syton also helps you produce more uniform, condensed rovings and stronger yarns with less twist. This all leads to such additional improvements as: less fly and waste, fewer ends down, faster machine speeds.

A new booklet, "Profitable Spinning of Wool and Wool Blends with Syton," describes in detail how Syton may be applied on the Woolen, Bradford, French and modified systems. Ask for a copy today if you would like to learn how typical mills have used Syton to improve their processing.
MONSANTO CHEMICAL COMPANY, Textile Chemicals Department, Boston 49, Mass.

Syton: Reg. U. S. Pat. Off.

SEND FOR THIS NEW BOOKLET

MONSANTO

SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY
Textile Chemicals Department,
Everett Station, Boston 49, Mass.
Please send me new Syton booklet.

Name & Title _____

Company _____

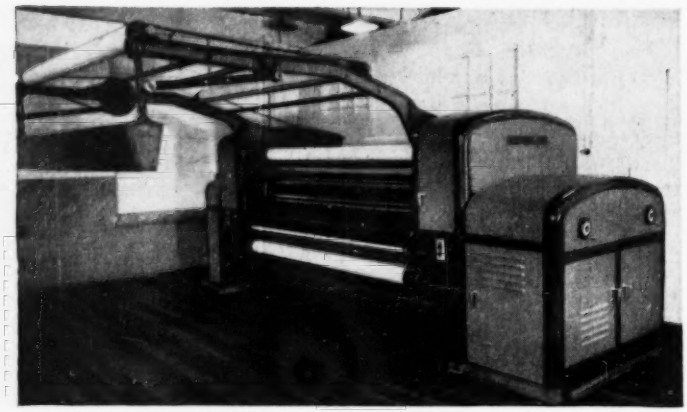
Address _____

City, Zone, State _____

***Eliminate the Guesswork!***

# CONTROLLED NAPPING

***is here***



90-inch, 24-roll double-action napper

*Announcing*

**A NEWLY DESIGNED NAPPING MACHINE** which simplifies this important step in cloth finishing. Take the old trial and error methods out of your napping room by investigating the 12 features listed below which add up to increased production and lower costs.

- completely safe operation
- less lubrication down time
- improved fabric protection
- complete fabric versatility
- elimination of guess-work
- redesigned enclosed drive and gears
- ease of cleaning
- negligible lint and fly problem
- simplified changes of cloth speed
- anti-friction bearings
- no change gears
- easily changed to single acting

***Get the Best – get a NEW SIMPLEX***

*Write today*

**DAVIS & FURBER MACHINE CO.**

NORTH ANDOVER, MASS.
CHARLOTTE, N. C.

Please let us have more information on the new Davis & Furber Napper.

*Name* _____

*Position* _____

*Company* _____

*City* _____ *State* _____

easily—without contracting with others to do it for you.

► Our underground editor reports from behind the Iron Curtain that the circus clown who wore red wigs, giant shoes, and loose robes, is disappearing from the scene. Instead, "humorous artists" will recite Russian four-line rhymes. If the rhymes are anything like those in S&R years ago, the practice will die a natural death. Here's one from our 1946 issue:

*There was a manufacturer*
*And he was wondrous wise*
*He learned the way to sell his wares*
*Was to advertise.*

*Now textile folks both far and wide*
*Loudly sing his praise*
*They answered his ad in TI*
*A habit which always pays.*

(And what hurts, such verses were done on company time.)

► From the Bureau of Standards we learn that they have developed an atomic clock which is far more reliable in the measurement of time than the movement of the earth and stars. It's going to be difficult to make this change, just when we were getting accustomed to the old system.

► Your reading time, even under the atomic system, is valuable, so Keep Your Eye on TI (your good eye, that is).

**TI Valuable on Hosiery and Underwear**

"Have been a subscriber to TEXTILE INDUSTRIES for a number of years and have received through it some valuable information. . . am now seeking information regards to construction and manufacture of full-fashioned sweaters. . . "

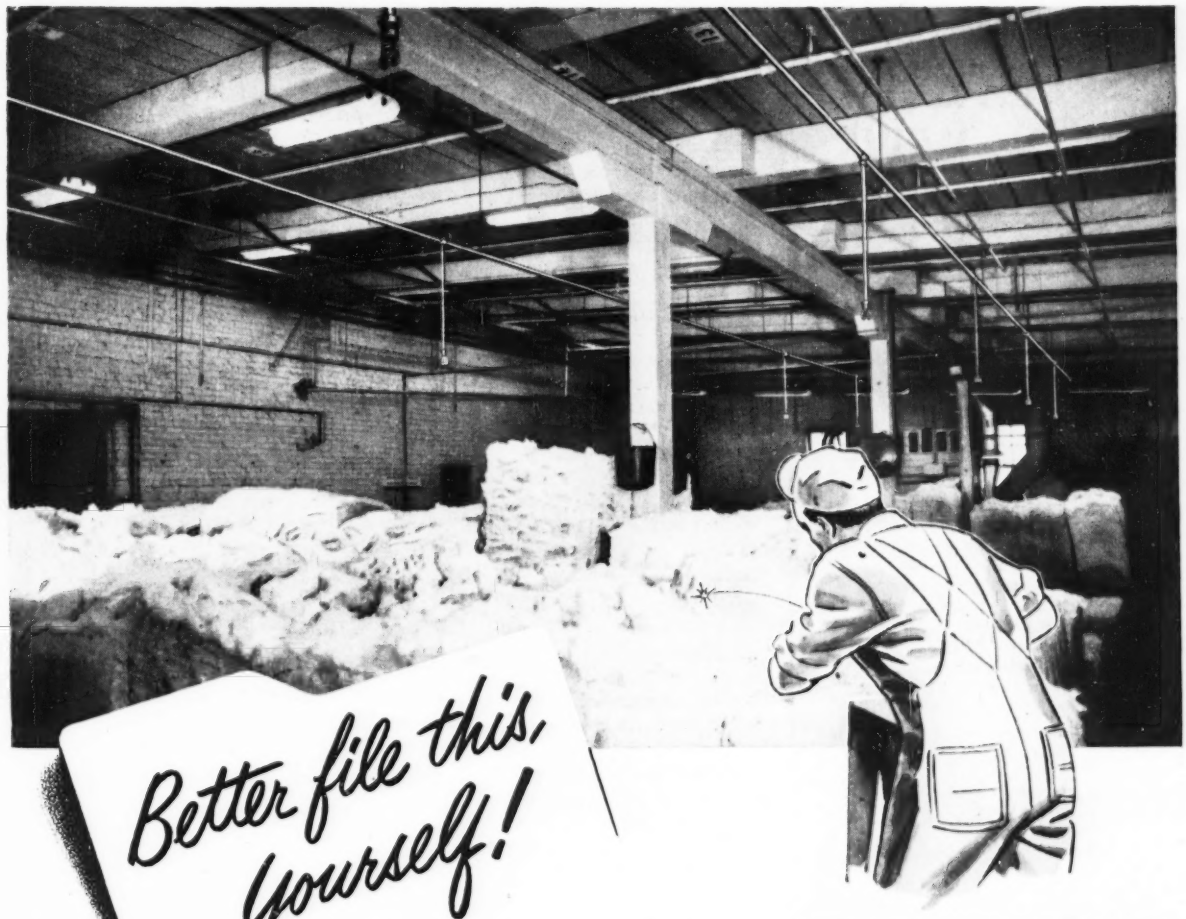
WILBUR H. MADEIRA
Superintendent
Burkey Underwear Co., Inc.
Hamburg, Pa.

**17-Mill Test Story**

". . . . 'Relation of Mill Processing Conditions to Yarn and Fabric Properties' . . . . very interesting . . . . obliged if you could send me two copies of reprint. . . ."

Z. K. SUNG
Chief Engineer
Pao Hsing Cotton Mill
Hong Kong

► That story in October TI provides reference material on mill operations that will not be available again for many moons; if department heads, technicians, and executives do



*Better file this, Yourself!*

## Clear proof that GRINNELL OPENER ROOM SYSTEMS give maximum flash fire protection using minimum water

While filing a bearing in a room with more than 60 open cotton bales, a workman caused a spark to fall into one of the bales, igniting it. Another workman moved over to the nearest control station, pressed the valve lever of the Grinnell Opener Room System for a few seconds, and put the fire out.

***Water damage slight . . .***

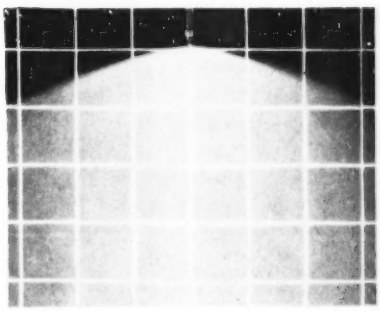
Only 3 of the bales were damaged by the fire — a $300 to $400 loss. Wetting of the remaining bales was so slight that the cotton was ready for the opener machines next morning. Plant operation was uninterrupted.

***Safeguards a wide area . . .***

Why not satisfy yourself about the many features Grinnell Opener Room Systems provide? Learn how surface fibres *within a wide area* are dampened by a misty spray, preventing the spread of fire. Discover how the self-closing valve prevents excessive water damage by shutting off the water flow. Where time does not permit normal evaporation, no more than a thin top layer of cotton ever need be stripped off the bales for drying.

***Special and supplementary protection . . .***

A Grinnell Opener Room Fire Protection system is not intended to take the place of regular Grinnell Automatic Sprinkler Protection, but is supplementary to it. The former takes care of "flash" fires; the latter, of deep seated fires far enough advanced to operate a sprinkler system.



Spray from a Grinnell ProtectoSpray nozzle used in Opener Room Systems.

***Call for the facts . . .***

Before fire strikes your opener room, call your nearby Grinnell Fire Protection Office for complete facts. Grinnell Company, Inc., Providence, R. I. Branches in principal cities.

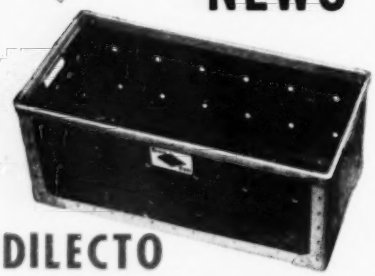
# GRINNELL

**FIRE PROTECTION SYSTEMS**

*Manufacturing, Engineering and Installation of Automatic Sprinklers Since 1878*

...From SPARTANBURG, S. C.

CDF TEXTILE NEWS



DILECTO

CONDITIONING BOXES

Want boxes that resist moisture, chemicals, steam, and dyes? C-D-F builds a superior line of boxes and trucks from Dilecto, a tough laminated phenolic plastic. Although higher priced, Dilecto boxes last for years, are little affected by many acids, are insoluble in ordinary solvents. They withstand heat, steam, water. Get the facts. Talk over your special materials handling problems with an expert . . . your C-D-F sales engineer.

DIAMOND FIBRE

ROVING CANS

Strong, tough, smooth. That's the industry reputation for C-D-F roving cans. Genuine Diamond Vulcanized Fibre body is finished inside and out with a moisture resistant synthetic enamel. Steel top rim is rust resistant plated, smooth, snugly fitted. From a sample can to carload full . . . with C-D-F you get smooth, seamless uniformity.

*Write now for new folder showing complete C-D-F receptacles line!*

ALL PRODUCTS OF

Continental-Diamond Fibre Company

NEWARK 11, DELAWARE

. . . with Textile Headquarters at 834 Haynes Street, Spartanburg, South Carolina. Call Spartanburg 3-6397 for DILECTO and DIAMOND FIBRE materials handling equipment . . . trucks, boxes . . . loom parts . . . top-speed shipments of CELORON silent gear blanks . . . friendly service from your C-D-F sales engineer.

not have a copy tucked away in their files, we suggest doing so. A few reprints are still available.

**Pat on the Back**

"Last evening . . . I read . . . . . issue of TEXTILE INDUSTRIES, and I feel that I should extend to you and your organization my appreciation for the remarkably complete coverage, both in articles and advertisements, of interest to our industry.

In the issue that I have in my hand, there are not less than 8 corners turned down, to be called to the attention of various departments in our organization for either correcting present practices or for investigation of items mentioned."

NORMAN E. ELSAS
Chairman of the Board
Fulton Bag & Cotton Mills

**He Does Appreciate!**

". . . . thank you very kindly for your letter . . . . with so much information on moire' . . . was certainly fine of you to give this matter so much consideration and so much of your time.

H.S.W. (Mass.)

► Glad to be of service.

**Lubrication Training**

". . . . please send us two sets of tear sheets on the article 'Lubrication Training Program' which appeared in your September issue. . . ."

W. M. SIMPSON
Kendall Mills
Charlotte, N. C.

► The article by Clark Hubbard of Deering-Milliken contained much useful information—was well received by the industry.

**Charts Interesting**

" . . . . to thank you very much for forwarding me a copy of your spread sheet presenting 'The American Textile Industries' which I found to be extremely interesting."

SEABURY STANTON
President-Treasurer
Hathaway Manufacturing Co.
New Bedford, Mass.

**Likes Electrical Coverage**

"Your coverage . . . . of the AIEE Textile Conference . . . . is excellent . . . . your publication has been doing an outstanding job for the textile industry."

F. D. SNYDER
Engineering Supervisor
Westinghouse Electric Corp.
Boston, Mass.

The Philadelphia section of the American Association of Textile Chemists and Colorists recently elected the following new officers: Chairman, **Harry L. Morgan,** James Lees & Sons Co.; vice-chairman, **Frederick V. Traut,** Globe Dye Works Co.; treasurer, **Thomas H. Hart,** Hart Products Corp.

**Garner Allman,** previously with the Newnan, Ga., plant, has been made head of the statistical quality control program for American Thread Co.'s Clover division.

**Marshall Dilling, Jr.,** with American Yarn & Processing Co. the past nine years, has joined Howard Knit Products, Inc., Gastonia, N. C., as secretary and assistant treasurer.

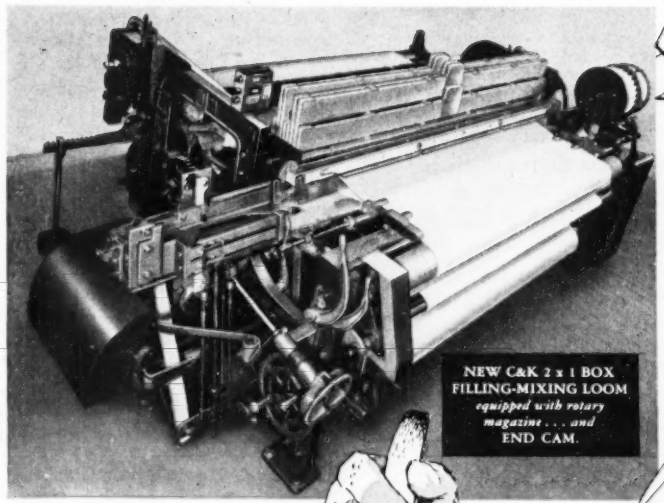
**W. R. Austin** was made a vice-president and **L. B. Allen,** assistant vice-president, of Avondale Mills, Sylacauga, Ala.

**Henry C. Laponsee** has resigned as superintendent of the Amory Worsted Mills, Inc., Manchester, N. H.

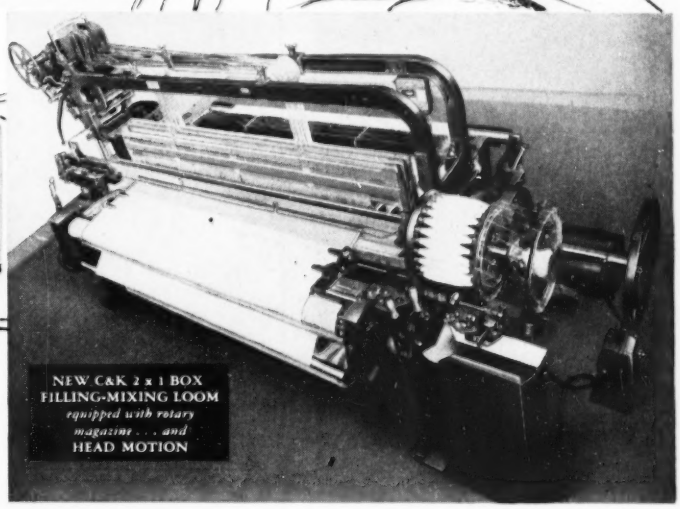
New directors of the Citizens & Southern National Bank, Spartanburg, S. C., are **M. L. Cates,** treasurer of Arkwright Mills, and **Marshall C. Stone,** treasurer of Pacolet Manufacturing Co.

**Ralph G. Scheufler,** formerly assistant secretary, is now assistant treasurer of Berkshire Woolen Co.

**Robert L. Huffines, Jr.,** recently resigned as president of Burlington Mills Corp. of New York and as executive vice-president of Burlington Mills Corp. He continues as a director in the parent company. **Hugh Stroupe,** formerly personnel



*Cook up*
*Something NEW*




# . . . with C&K's Newest Filling-Mixing Looms

If you're interested in sweetening your mill's profits with a new trade promotion in any fabric that's single-color, 2 x 1, filling-mixing . . . then you're bound to be interested in these new additions to C&K's long-established line of Call Box Filling-Mixing Looms.

Here are some of the features of these new FM Looms: rotary magazine . . . batwing or cone picking . . . any type of shedding mechanism . . . head motion, dobby or end cam . . . less drag-ins . . . lighter lay, fully reinforced . . . *25% higher speeds.* These and other C&K features add up to better cloth and more of it, at lower cost per yard . . . *and lower cost per loom.* See C&K!

*Crompton & Knowles* LOOM WORKS

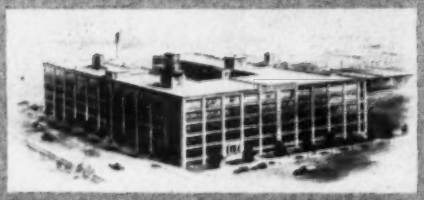
**WORCESTER 1, MASSACHUSETTS, U. S. A.**

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Stehedco
and
Southern

WORLD FAMOUS TRADE NAMES OF THE
STEEL HEDDLE MFG. CO.
and SOUTHERN SHUTTLES DIVISION



2100 W. Allegheny Ave. • Philadelphia 32, Pa.

Paris, Greenville, S. C.

Manufacturers of

Flat Steel Heddles • Loom Harness Frames • Loom Reeds (Pitch Band and All Metal, Regular and Stainless Steel Wire) • Loom Harness Accessories • Automatic and Hand Threaded Southern Shuttles (Tempered Dogwood, Persimmon, and Fibre Covered) • Warp Preparation Equipment • Electrode Rods (Fibre and Plastic Insulation) • Drop Wires • Creel Stop Motions • Pigtail Thread Guides • Tension Washers • Light Metal Stampings • Hard Chrome Plating • Hard Chrome Plated Parts • Rayon Cake Holder

268 McDonough Blvd. • Atlanta 1, Ga.

STEEL HEDDLE COMPANY OF CANADA, Ltd.

310 St. Hubert Street • Granby, Quebec, Canada

STEHEDCO and SOUTHERN Products
"Weave the World's Needs"

I-D-IX

## Personal NOTES
ABOUT MEN YOU KNOW

supervisor at Flint No. 1 plant of Burlington, has been transferred to the Modena plant. He replaces **Charles Giles,** now in the firm's California finishing plant. **John Lomas** has succeeded Mr. Stroupe at Flint.

**H. T. Amon, Jr.,** formerly manager of the LaGrange, Ga., Chamber of Commerce, has joined Callaway Mills Co. as supervisor of special activities for the industrial relations department.

**Carl Pahl** has succeeded E. R. Hamlin as personnel director of Carter Fabrics Corp., South Boston, Va.

**Leonard Koch,** sales and production manager, Davis Screen Plant, United Merchants & Manufacturers, and **Robert Nirenberg,** Commodity Standardization Board, Armed Services Textile & Apparel Procurement Agency, have been added to the staff of the City College Midtown Business Center, textile unit, in New York City.

Previously with B. S. Roy & Son Co., **W. F. Crowder** is now assistant manager for Clover (S. C.) Spinning Mills Co.

**Edward F. O'Reilly,** vice-president in charge of sales since 1945, has been elected president of Columbia Mills, Inc., Wilkes-Barre, Pa. **Fred J. Sliney** succeeds Mr. O'Reilly, and **Henry Stamm** is now vice-president in charge of purchasing.

**P. S. Leach,** previously head of the industrial engineering department, has been promoted to general superintendent of Consolidated Textile Corp., Lynchburg, Va. He succeeds **T. D. Hollingsworth,** now night superintendent. **Ira Ring,** formerly second hand of carding, is now overseer of carding at the firm's newly activated plant in Martinsville, Va.

Deering, Milliken & Co., Inc., has named **E. H. Hines, Jr.,** to the newly-created post of general manager of the worsted division mills. **F. A. Thompson** succeeds Mr. Hines as manager of the McCormick and Johnston plants; **T. E. Peden** replaces Mr. Thompson as superintendent of the Johnston mill. **H. B. Risher** is now plant manager of Excelsior finishing; at the same plant **W. L. Hunter** has been promoted from superintendent of dyeing to superintendent of specialty finishing; **B. C. McWhite,** formerly worsted production control manager, has been made superintendent of worsted and synthetic finishing. **Harold Herd** has been transferred from the Abbeville plant to be chief accountant of the

### New Phi Psi Members

The Alpha Chapter of Phi Psi fraternity, Philadelphia Textile Institute, recently inducted as honorary members **Frank P. Zurn** (left), chairman, board of governors of the Institute, and **John H. Thomas** (center), vice-president, textile division, Owens-Corning Fiberglas Corp. **George Saba,** Chapter president, is shown presenting the scrolls.

# HEAVIER and HUSKIER

## the Southern

## DURAWELD SHUTTLE

. . . has been used successfully for years by leading mills everywhere and is no longer considered experimental.

Its added and consistent weight provides a shuttle 10% heavier than the usual dogwood or fibre covered shuttle, thus reducing "Throwing out" and the consequent breakage due to this action.

**Duraweld** . . . is Southern's trade name for shuttles made with dogwood centers having one or two sides of *Stehide* or *Compreg*. The two materials become an inseparable unit through an unusual action of molecular adhesion.

**Stehide** . . . is Southern's trade name for high density phenolic impregnated cloth laminate.

**Compreg** . . . is Southern's trade name for high density impregnated wood laminate. The Duraweld construction is applicable to all types of shuttles and provides—

Greatly strengthened side walls . . . Elimination of wood defects . . . Will not heat up . . . Use of less loom power due to greater weight . . . Resists splitting . . . Moisture proof in side walls. All of these plus many more advantages make the cost of Duraweld less over a period of time.

**Consult your nearest Southern Shuttle Field Engineer for the information you require.**

## SOUTHERN SHUTTLES

A DIVISION OF **STEEL HEDDLE MFG. CO.**

**PARIS, GREENVILLE, S. C.**

***It's Southern for Service and Delivery***

TEMPERED
TRADE MARK REG.

2-0-2

With labor costs as they are, the fast, *mechanized* TENNANT System can save you more *today* than ever—besides eliminating scrubbing. Here are 5 reasons why TENNANT "dry cleaned" floors are cleaner . . . brighter . . . safer—yet *cost you less:*

1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

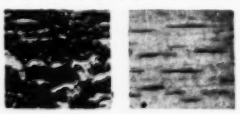
2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.

*Write Today!* Learn how mechanized "dry cleaning" can save you money. Ask for new bulletin "HOW TO GET BETTER RESULTS IN TEXTILE FLOOR MAINTENANCE."




**HERE'S WHAT HAPPENS** when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean; and it breaks down rapidly under heavy traffic.

In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

**G. H. TENNANT CO.**
2524 North Second Street
Minneapolis 11, Minnesota

The way to finer floors
TENNANT
Floor Maintenance System
ESTABLISHED 1870

OFFICES IN PRINCIPAL CITIES


## Personal NOTES ABOUT MEN YOU KNOW

three mills of the worsted division.

**Joseph D. Moore,** former president of Moore Textile Co., Charlotte, N. C., is now manager of Fieldcrest Mills' Towel Mill at Fieldale, Va. He replaces **Neill M. Dalrymple,** transferred to the staff of the production manager.

**Fred G. Barnet** has been made assistant manager of Fulton Bag & Cotton Mills' Dallas, Tex., operations. Mr. Barnet has been with the firm since 1939.

**J. H. Wyatt** has been appointed assistant to S. L. Lewis, Jr., vice-president in charge of sales of Reeves Brothers, Inc., and will be in charge of product development. He

**Mr. Wyatt**

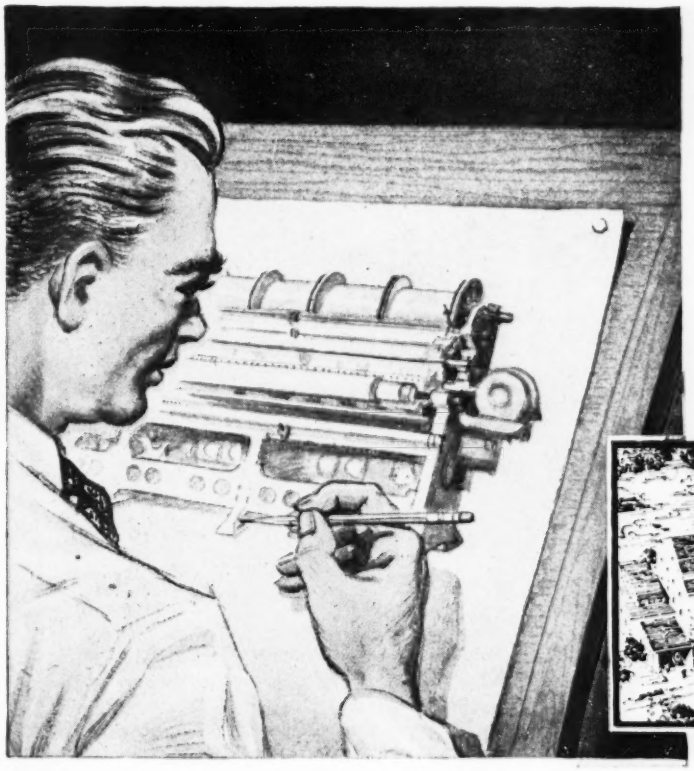
was previously general superintendent of several of the firm's plants in the Spartanburg area and more recently was general assistant to the vice-president in charge of manufacturing.

**Alexander Rittmaster,** a member of Thompson and Rittmaster, investment analysts, has been elected a director of Gera Mills, Inc.

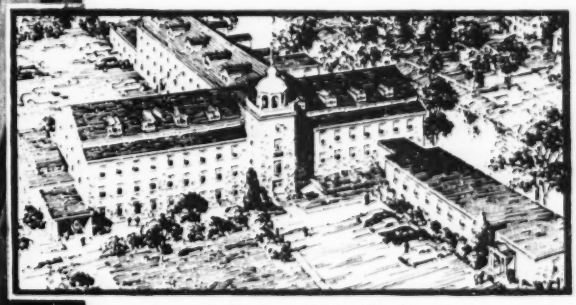
**P. H. Hanes,** president of the P. H. Hanes Knitting Co., Winston-Salem, N. C., recently was awarded a 50-year service certificate and pin at the firm's seventh annual presentation. At the annual meeting of the board of directors, the following promotions were made: **R. A. Lambertson,** from secretary-treasurer to vice-president and treasurer; **W. Walker Cantrell,** vice-president in charge of manufacturing; **Oscar A. Shortt,** vice-president in charge of sales; and **Reginald F. Brooks,** secretary and assistant treasurer.

New president of Indera Mills Co., Winston-Salem, N. C., is **Frank F. Willingham,** who succeeded Mrs.

# *Another Dividend* from our policy of PROGRESS THROUGH RESEARCH



Once again, our engineers and technicians working together in Whitin's Research Division, the world's largest and best equipped for textile machinery development, have combined their varied skills to produce a machine of outstanding merit — a great machinery dividend, this time for the tricot knitting industry.



*Research Division, Whitinsville ,Mass.*

## It's the new WHITIN Model "D" Tricot Knitter

Two of the desirable objectives of the tricot knitting industry are (1) the production of fabrics of improved quality and (2) producing such fabrics at a higher rate of speed. Extensive tests indicate that the new Model "D" achieves these purposes by providing newly designed mechanisms for the more accurate control of fabric quality — and by the use of new applications of materials for increasing its productive capacity.

Other important elements have been added or redesigned. The new motor drive, for example, is simple and ingenious, allowing a full range of precisely controlled inching and jogging through any degree of motion in a cycle. Interesting, too, is a new lubrication system which is optional for multiple unit installations.

For quality of product . . . for high production . . . for top performance, here's the pace setter — the Whitin Model "D" Tricot Knitter.

**See it in operation at the**

**KNITTING ARTS EXHIBITION**

**Atlantic City Auditorium • April 27 - May 1**

**BOOTHS**

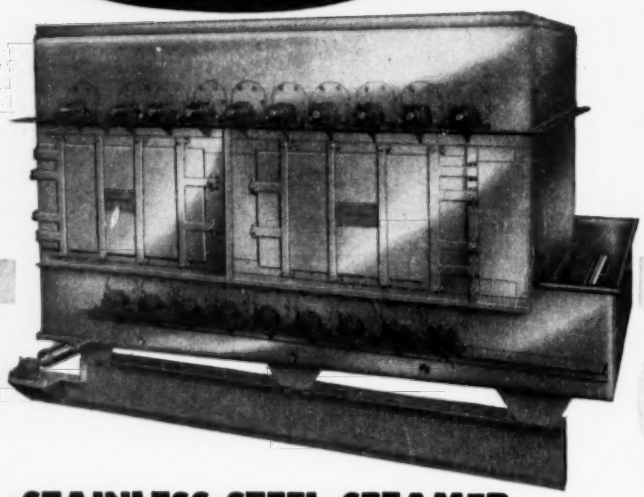
**414 • 414A • 415 • 415A • 440 • 441 • 452 • 453**

# *Whitin* MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

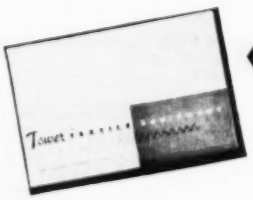
CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, N. C. • DEXTER, ME.

INVESTIGATE
Tower
TEXTILE EQUIPMENT



STAINLESS STEEL STEAMER

For your pad-steam dye range requirements, Tower Textile Engineers are good men to know; particularly if you are cost conscious. Our skilled consultants will be pleased to confer with you on the design and installation of the finest textile equipment, to meet your most exacting operational requirements.



*Write for free booklet on Tower Textile Equipment*

**IRA L. GRIFFIN & SON**
Charlotte 1, North Carolina
Southern Representative

Tower Iron Works

*Established 1835*

**50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND**

## Personal NOTES ABOUT MEN YOU KNOW

Eleanor Fries Willingham, retired. **J. Lee Keiger** was elected chairman of the board and continues as secretary; **George W. Sheek, Jr.,** vice-president in charge of sales; **Mrs. S. S. Batting,** secretary.

A. & M. Karagheusian, Inc., has appointed **J. Cecil Beith** as an assistant manager of the firm's weaving mill at Freehold, N. J. He will continue to supervise the production department. Pictured here is Mr. Beith being congratulated by **Warren**

**Bufton,** manager (center) and **Edwin Bachman,** senior assistant manager (right). **Helen F. Davis** has been added to the public relations staff and will handle publicity for trade and consumer publications.

The three new directors of Jantzen Mills, Inc., Portland, Ore., are: **Donald E. Kennedy,** sales manager of the sportswear division; **C. E. Inman,** manager of the swim suit division; and **Kenneth C. Smith,** controller. They replace John R. Dodson, Henry L. German, and Alfred J. Cormack, now members of the senior consultant board. **E. C. Klindworth** and **Mayer G. Monroe** have been elected vice-presidents; **George D. Ruby,** secretary.

**Albert Carpenter,** formerly head of Carpenter Hosiery Mills, Wytheville, Va., has joined Jerks Socks, Inc., Cincinnati, O., as director of production.

Vice-president **Russell C. Gebert** of James Lees and Sons Co. has been named assistant to the president and director of the product research activities. **Elias G. Hawkins** has been made vice-president and director of manufacturing. **Robert Handly,** pre-

14th Century Peruvian Fabric.
Museum of Art,
R. I. School of Design.

## . . . then as now

## YARN DYED FABRICS were Supreme

This yarn dyed fabric from Peru was loomed in the 14th Century, generations before the discovery of America.

The Inca weaver knew no more of cloth-making tradition in Europe, Asia or Africa than in Atlantis or the fabled Land of Mu. Yet color was used artfully, as in every land and every age, to make this fabric more desirable.

Always, fabrics whose patterns were created from colored yarns have won highest favor and appreciation. For exceptional quality in your colored yarns and expert advice in their use, trust to Franklin Process – yarn merchants and the largest package yarn dyers in the world.

YARN MERCHANTS AND LARGEST PACKAGE DYERS IN THE WORLD

Franklin Process

New York Representative – 40 Worth Street

Providence Philadelphia

Greenville Chattanooga

# No Drag or Pull *at High Speeds!*

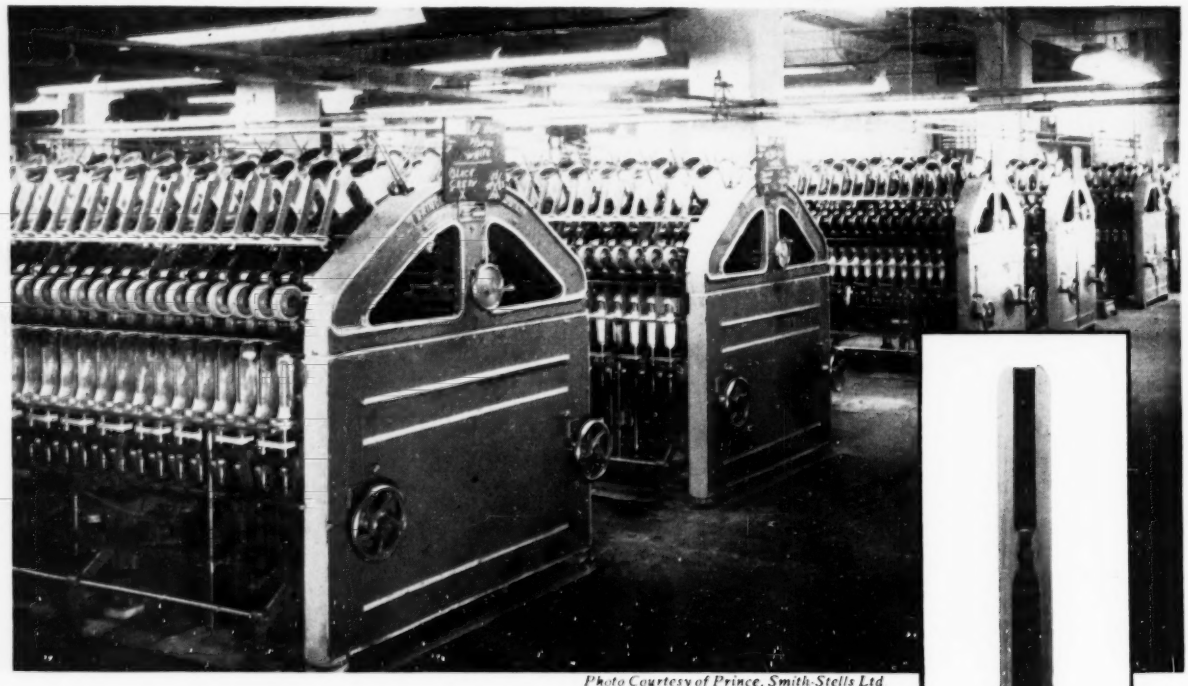


*Photo Courtesy of Prince, Smith-Stells Ltd*

Cross section view showing machining details and bushings.

## *with* VERMONT SPOOLS and BOBBINS

### EXPERIENCED WORKMEN, ADVANCED METHODS AND QUALITY MATERIALS ASSURE LONGER "BOBBIN LIFE"

• Vermont Spool and Bobbin Company gives you a bobbin that does not drag or pull at high speed, because of a uniquely crimped built-in brass bushing. As an added preventative, the core of each bobbin is reamed so that IF the bobbin SHOULD swell, it will not grab the spindle—thus the bushing is always free running. Every VERMONT Bobbin is given a 7-day baked enamel cure which seals moisture out, preventing bobbin-swelling and assuring an always-smooth running surface for the fabric. VERMONT Spools and Bobbins are made to your specifications . . . tailored to fit YOUR needs.

Contact your nearest Vermont Spool and Bobbin representative and compare the advantages and the low cost with the bobbins you are now using. Further information upon request.

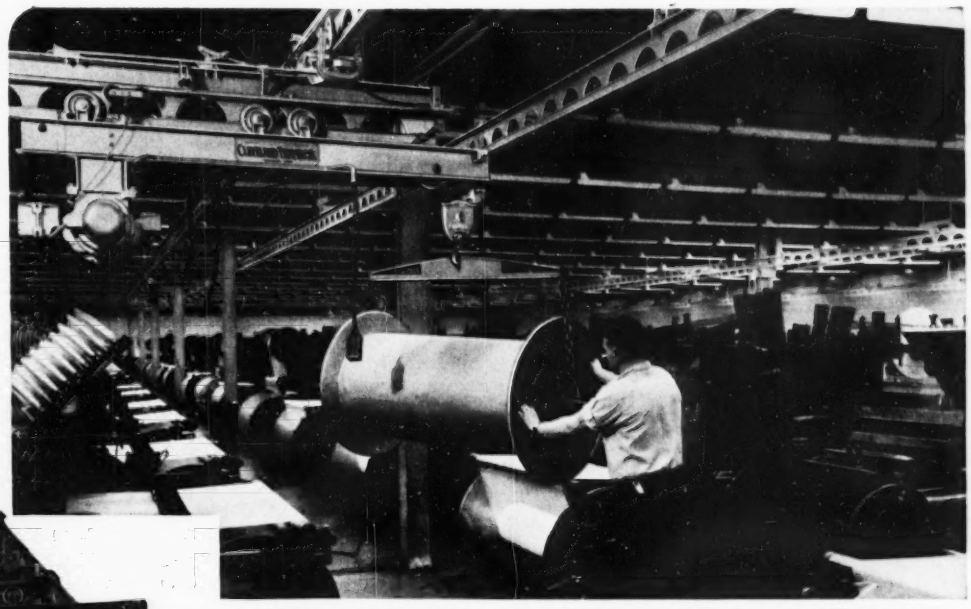
*5 Features You Want*

- LONGER LIFE
- TRUE, FREE-RUNNING
- BRASS BUSHINGS
- SKILLED WORKMANSHIP
- COMPETITIVE PRICE

REPRESENTED IN THE EAST BY ATKINSON, HASERICK & CO., BOSTON 6, MASS.

**Vermont SPOOL AND BOBBIN CO.**

234 SO. CHAMPLAIN ST. — BURLINGTON, VERMONT — *SUPERIOR SPOOLS AND BOBBINS SINCE 1906*



Despite the columns in this aisleway, beams weighing up to 1500 lbs. are easily doffed from the creels of the looms on either side of the aisle with the cantilever carrier on the Cleveland Tramrail transfer crane. The carrier can be transferred to any of a large number of bridges serving the entire weave room.

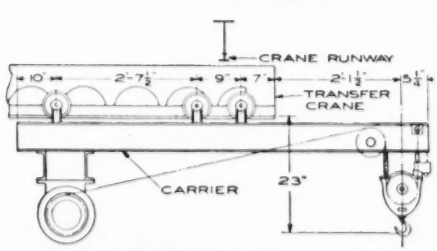
# TRAMRAIL CANTILEVER CARRIER Provides Handling Around Pillars

A problem in loom beam handling in the weave room of the Gerrish-Milliken Mill in Pendleton, S. C. was solved by the use of a specially designed carrier with a cantilever arrangement that permits the unit to handle loads beyond the end of the crane on which the carrier operates.

The room was originally planned to accommodate a number of rows of looms with one alley serving every two rows. However, the roof-supporting pillars were so located that it was impossible to handle the heavy beams from the looms located along one side of some of the alleys with a standard crane. Such a crane, long enough to permit a hoist carrier being spotted over the loom creels, would not clear by the columns.

The Cleveland Tramrail crane designed for this application was made short enough to pass the columns. The carrier, with its extension feature, permits the hoist to reach out as much as 2'-1½" beyond the end of the crane. When it is necessary to travel the crane for some distance on its runway, the carrier is moved in sufficiently from the crane end to permit safe clearance of the columns.

This special unit gave the mill more freedom in working out the loom layout without regard for the location of the columns. It is one example of the many ingenious designs developed by Cleveland Tramrail for providing efficient overhead materials handling.




Load capacity one ton.

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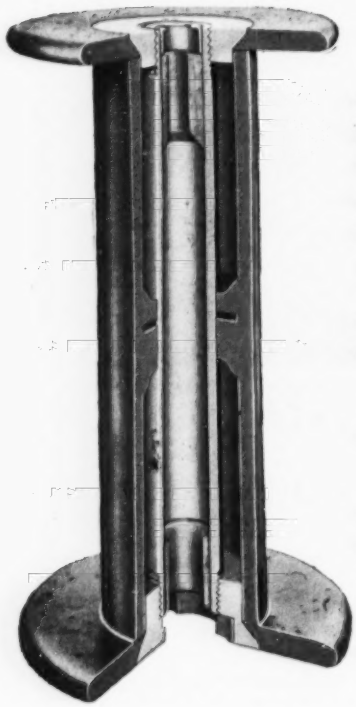
**CLEVELAND TRAMRAIL DIVISION**
THE CLEVELAND CRANE & ENGINEERING CO.
2879 EAST 287TH ST. WICKLIFFE, OHIO

**CLEVELAND TRAMRAIL**
**OVERHEAD MATERIALS HANDLING EQUIPMENT**

# LESTERSHIRE "NB" BOBBIN "FAR SUPERIOR"



WE don't ask anyone to take our unsupported word for the superiority of NB Bobbins over the types of bobbins elsewhere available. We freely supply samples for individual tests.

Here are conclusions given us by a mill owner who has made his own tests:

"We put nylon yarn on the NB Bobbin under full tension.

"We found the NB far superior to other types we have tested and used. We were surprised there was so much difference.

"After accelerated time tests, we put NB Bobbins' life at 10 years, as against 2 years for the best bobbin of other types."

**The Lestershire NB BOBBIN**

is designed specifically for inherent balance; to withstand the crushing pressures of nylon and other new synthetic yarns; to operate at higher spindle speeds safely and efficiently; to lessen spindle wear; to eliminate vibration, and to lessen bobbin investment.

Materials used are aluminum center tube, Phenolite (laminated bakelite), molded bakelite, or hard vulcanized fibre for heads and barrel.

Beveled aluminum bushings threaded to the central aluminum tube and locked in place, hold the heads without screws. Send for full description and samples for your own testing.

## LESTERSHIRE SPOOL & MFG. CO.

**140 Baldwin Street** **Johnson City, N. Y.**

**Division of National Vulcanized Fibre Company**
***Branch Offices and Technical Services:***

**Clifford E. Lathrop—7 Whitney Avenue, New Haven 10, Conn.**
**W. H. Hobbs—Room 833, 30 Church St., New York 7, N. Y.**
**Wm. S. Richards Co.—Clayton, St. Louis 5, Mo.**
**National Fibre Co. of Canada, Ltd.—Toronto**
**National Vulcanized Fibre Co.—Cincinnati**
**Odell Mill Supply Co.—Greensboro, N. C.**
**Greenville Textile Supply Co.—Greenville, S. C.**
**National Insulation Co.—Chicago 12**
**National Vulcanized Fibre Co.—Detroit**
**National Vulcanized Fibre Co.—Cleveland**


## Personal NOTES ABOUT MEN YOU KNOW

viously assistant plant manager and superintendent of the worsted division, is now plant manager of the Bridgeport mill. He is succeeded in the worsted division by **Richard C. Gridley. Joseph Bono** has been promoted to chief dyer of all Lees operations in Bridgeport and Glasgow, Va.; **Lewis Ewan** has been made superintendent of the Bridgeport dye house.

**Stacy Boyd Carson,** with J. P. Stevens & Co., Inc.'s finishing plant at Wallace, S. C., previous to November, is now with Dan River

**Mr. Carson** **Mr. Beauregard**

Mills, Inc., as assistant superintendent of finishing operations in the Schoolfield plant. **Roy E. Beauregard** is night superintendent of the same operations.

**Robert W. Stokes, Jr.,** and **Charles J. Stokes** have replaced Irwin Belk and the late W. H. Belk as directors of Monroe (N. C.) Mills Co.

**Julius W. Abernethy** has been elected chairman of the board, and **Gordon G. Matheson,** executive vice-president, of Mooresville Mills.

**William C. Vereen** was recently elected president of Moultrie (Ga.) Cotton Mills and Riverside Manufacturing Co., succeeding his father, the late W. J. Vereen.

Changes in the executive management of the Narrow Fabric Co., Reading, Pa., are as follows: **Louis R. Thun,** member of the board; **John W. Sweeney,** executive vice-president; **Frederick S. Pierce,** sales manager; **Leroy W. McGrath,** secretary and treasurer; **Thomas M. Fry,** assistant secretary; **George Dudley, Jr.,** assistant treasurer.

**Joseph E. Gastonguay** was recently promoted to general superintendent

# what's **corn** doing at the north pole?

**CORN PERFORMS VITAL FUNCTIONS... IN MANY UNEXPECTED PLACES**

Wherever modern man goes... corn follows him in one form or another. Corn is with him in his food in many forms, including corn syrup, starches and energy-giving dextrose. Corn sugars helped tan the leather in part of his clothing. Specialized corn starches helped cast the molds for much of his metal equipment. These are but a few of the numerous examples of how continuous basic research in corn helps a host of industries... helps you.

**CORN PRODUCTS IN TEXTILES**

For the textile industry Corn Products Refining Company supplies a variety of specialized starches, gums and dextrins... recommended ingredients for many textile processes.

We offer quality in volume supply unexcelled in the field. Complete technical service is available without cost or obligation. If you have a production problem why not check with Corn Products. We welcome your specific technical inquiries.

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**brand dextrins, gums**
**GLOBE®**
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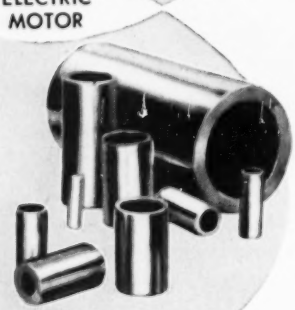
**CORN PRODUCTS REFINING COMPANY,** 17 Battery Place, New York 4, N. Y.

Use
STANDARD
SIZE
Johnson
Bearings
they save you TIME and MONEY

GRAPHITED

ELECTRIC MOTOR



GENERAL PURPOSE

UNIVERSAL BRONZE BARS

LEDALOYL (Self-Lubricating)

Actually, standard stock sizes of Johnson Sleeve Bearings will meet at least 90% of your needs. And remember, you save special machine set-up costs, pattern charges, and other costs involved in made-to-order bearings. This is the most complete line of sleeve bearings on the industrial market. There are over 900 sizes of Johnson GP (general purpose) Cast Bronze Bearings, 200 sizes of Graphited Bearings, 340 distinct Johnson EM (electric motor) Bearings, and a wide selection of plain, flanged and self-aligning Ledaloyl Self-Lubricating Bearings. In addition, Johnson Universal Bronze Bars are available in over 400 sizes, cored and solid; also Johnson Babbitt. Your local Johnson Distributor can furnish your needs from stock.

JOHNSON BRONZE COMPANY
530 South Mill St., New Castle, Pa.

JOHNSON B BEARINGS
Sleeve-Type


## Personal NOTES ABOUT MEN YOU KNOW

in charge of manufacturing at the Lewiston Division of Pepperell Manufacturing Co. Other changes are: **Francis P. O'Connell,** director of employee relations; and **Timothy J. Murphy,** office manager.

**F. J. Gunston,** executive vice-president of New England Waste Co., Atlanta, Ga., has purchased an interest in **Wolf-Knit, Inc.,** Camp Hill, Ala. New officers of the firm are: **W. E. Wolfe,** president and general manager; **F. J. Gunston,** vice-president; and **L. E. Wolfe,** secretary-treasurer.

### Obituaries

**Arthur S. Babbitt,** former superintendent of the Narragansett Mills and before his retirement plant manager at Hoosac Mills.

**Donald A. Bollinger,** 65, chairman of Seymour (Ind.) Woolen Mills, February 3.

**Charles A. Booth,** 76, executive vice-president of Buffalo Forge Co.

**S. A. Courtauld,** 87, one of the founding directors of Courtaulds, Ltd., January 29.

**Marshall Dilling,** 71, retired superintendent of A. M. Smyre Manufacturing Co.

**Karl G. Dresdner,** 65, vice-president and director of Princeton Worsted Mills.

**Ervin S. Dunn,** 81, president of Dunn Worsted Mills, February 4.

**Harry A. Kayes,** 42, general merchandising manager of Dominion Textile Co., Ltd.

**William F. Kuersten,** a hosiery manufacturer for 40 years.

**John C. Lowe,** 70, retired professor of worsted yarn manufacturing at Lowell Textile Institute.

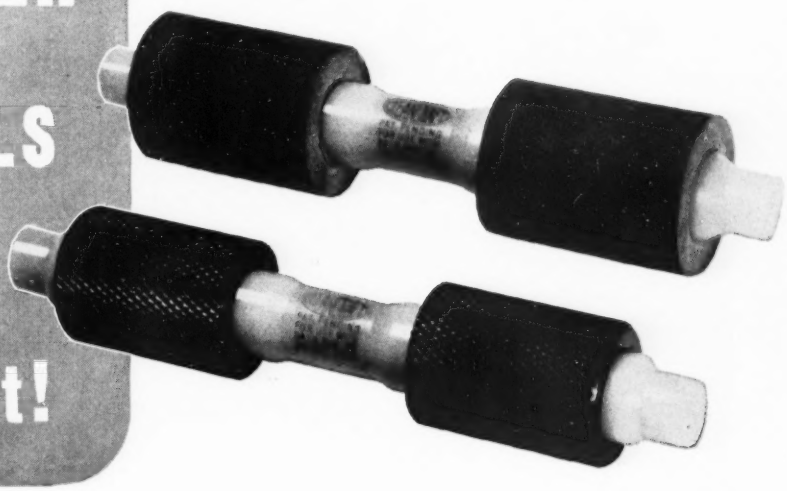
**Edwin F. O'Brien,** secretary and treasurer of Commonwealth Color & Chemical Co., February 6.

**Alfred F. Reed,** 45, chairman of Ripon (Wis.) Knitting Works.

**Martin L. Rhodes,** 55, superintendent of the North Carolina Vocational Textile School, January 27.

**Larry O. Wilson,** 61, president of Knoxville (Tenn.) Hosiery Mills.

# There's something NEW in TOP ROLLS ...and WHITIN has it!



## Now.. with WHITIN-CLEANDRAFT* TOP ROLLS you can . . .

1. **Eliminate oiling of top rolls.**
2. **Reduce picking and cleaning to levels never before possible with solid rolls.**
3. **Banish oil-stained yarn.**
4. **Reduce maintenance costs.**

**Manufactured by*
INDUSTRIAL PLASTICS, INC.
WHITMAN, MASS.

The new Whitin-Cleandraft non-lubricated top rolls have now been made standard on middle and back lines *only* on new Whitin Spinning Frames for cotton and short staple synthetics. They are also recommended and available for changeovers and replacements.

★ ★ ★ ★ ★ **Whitin MACHINE WORKS**

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

# Sometimes it's a "FAMILY AFFAIR"

Though they all come from the same house . . . one may be a lawyer, another a doctor, a business executive, and a scientist. When each is a success individually, the whole *family* has a reputation for success.

The world-wide reputation of the house of Anheuser-Busch is like that . . . built by all of its divisions and departments, though each is a specialist in its own right.

The Corn Products Department of Anheuser-Busch is such a specialist . . . with special people and special products devoted entirely to the needs of the Textile Industry. Its technical staff has had notable success in solving problems for textile manufacturers; its advice and facilities are yours for the asking, without obligation.

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**NEW YORK, N. Y.** 33rd & 12th Ave.


## *What the* TEXTILE MILLS *are doing*

The **American & Efird Co., Inc.,** has taken possession of the Newton (N. C.) Knitting Mills, which it purchased recently. The firm's subsidiary interest, Spun Fibres, Inc., at Whitnel, N. C., will be operated in the future as Spun Fibers Worsted Spinning Division.

**Ashe Hosiery Mills,** Knoxville, Tenn., have begun operations of a small unit at Maryville, Tenn., to accommodate Maryville employees.

**Associated Spinners, Inc.'s** Delaine Worsted Mills have a new office building.

**Charles H. Bacon Co. Hosiery Mills,** Knoxville, Tenn., have an addition to the mill under construction which is expected to cost about $250,000. 18 new 66-gauge knitting machines, valued at $1,000,000, will be installed at the rate of four to eight each year.

**Berks Textiles, Inc.,** has removed its former mill in Hyde Villa to West Reading, Pa., and is concentrating operations at that location. A number of new full-fashioned knitting machines will be installed to replace old equipment.

The **Bernside Mill** at Gastonia, N. C., has been purchased by **Trenton Mills, Inc.,** acquired some time ago by Julius Abernethy, Newton, N. C.

**Bond-Rite Combining Co., Inc.,** 25 Brock St., Stoughton, Mass., recently chartered, will manufacture cotton and woolen specialties. Jacob Ansin is treasurer.

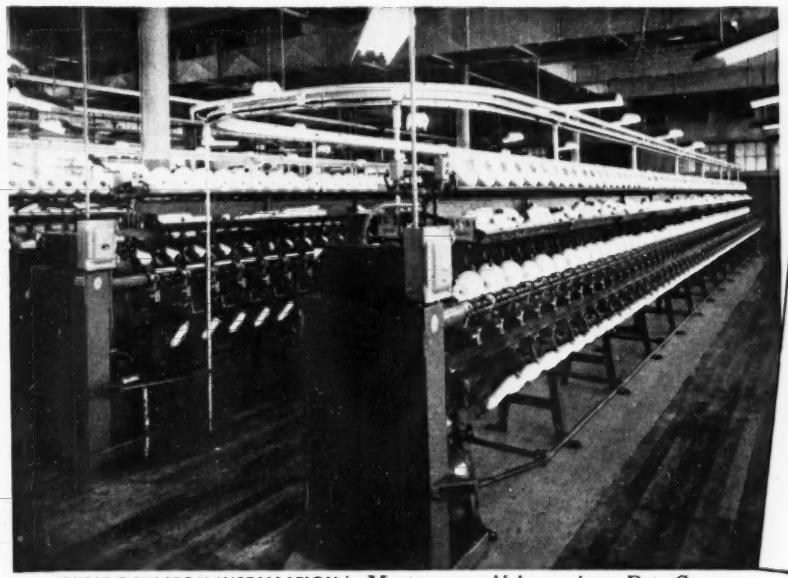
Walter L. Wilson is president of the newly organized **Carolina Fabrics, Inc.,** Greenville, S. C.

**Catalina, Inc.,** Los Angeles, Calif., has acquired approximately 20,000 sq. ft. additional space to be used in part for print shop, storage, and distribution.

Louis L. Cronson, 415 60th St., West New York, N. J., is attorney for the recently organized **Champagne Knitting Mills, Inc.**

**Clyde Piece Dye Works, Inc.,** will operate a dyeing, printing, and finishing mill. Charles J. Bourgault, R.F.D., New London Ave., West

# Alabama mill reports exceptionally low maintenance cost with Roto-Coner® Winders



**WEST BOYLSTON INSTALLATION** in Montgomery, Alabama shows Roto-Coner Winders used to both inspect and to package yarn for shipment. Streamlined surfaces of these winders are easy to clean, allowing little lint to collect. Roto-Coner Spindles start at the touch of a finger. Threading is simple, supply shelves close at hand.

***"Annual repair parts costs averaged less than ¼ of 1% of the original investment,"***

states West Boylston Manufacturing Company, a Division of United Elastic Corporation.

When West Boylston installed 1200 spindles of Universal Roto-Coner Winders back in '46 and '47, they were told that the upkeep of these winding machines would be negligible.

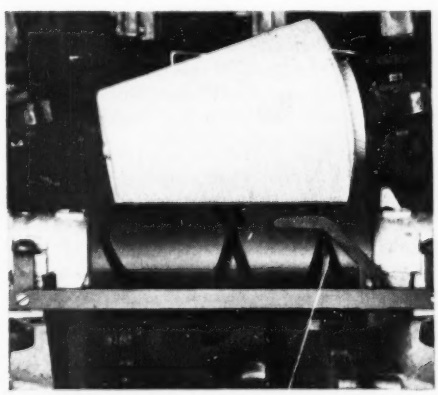
Now West Boylston is telling *us*.

Reports this large cotton yarn manufacturer, "Annual repair parts cost has averaged less than ¼ of 1% of the original investment!"

"What's more, there is not enough repair work on these and additional Roto-Coner Winders to keep one fixer busy! He fills out his time with additional duties."

This hearty testimonial is but one of many we receive from Roto-Coner users. This ultra-modern drum winding machine has no reciprocating parts whatever — no traverse cams that wear out, require greasing or adjustment.

Clean, quiet, easy to operate, the Universal Roto-Coner Winder will give you highest production at lowest maintenance cost in drum-winding your cotton, spun nylon, spun rayon, wool, worsted or blends.



**ONLY THE ROTO-CONER HAS THE ROTARY TRAVERSE.** Grooved roll acts as both driving drum and traverse guide.

**EXCLUSIVE ROTARY TRAVERSE**

Only the Roto-Coner Winder has the exclusive Universal Rotary Traverse. This one-piece driving drum and traverse guide eliminates the headache of frequent repairs. It lasts indefinitely and its lack of vibration contributes to low maintenance cost.

If you are not now using Universal Roto-Coner Winders, be sure to write for full details.

LEESONA®

## UNIVERSAL WINDING COMPANY

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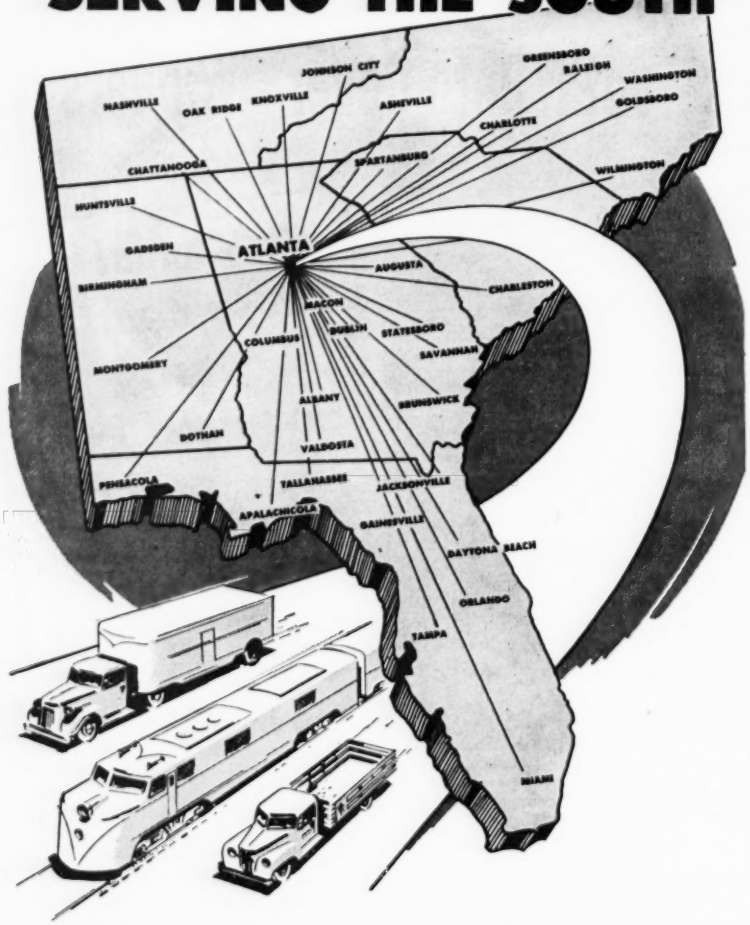
***Agents in every principal textile center throughout the world***

*Winding and Twisting Machinery for Natural and Synthetic Yarns*

# SERVING THE SOUTH

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15 main railroad lines and 75 major motor freight lines operating out of Atlanta enable us to make most deliveries of items in stock within 24 to 48 hours—many in less time!

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## What the TEXTILE MILLS are doing

Warwick, R. I., is principal incorporator and representative.

The Siler City, N. C., plant of William Klopman Co. has been purchased by the **Collins & Aikman Corp.** Acquisition of this mill adds 25% to the company's production capacity for furniture and automobile upholstery in the new synthetic fibers.

The cotton mill at **Martinsville**, Va., heretofore known as Loom-Tex Corp., is now in operation as a division of **Consolidated Textile Corp.** William E. Meeks is superintendent.

**Cookville Hosiery Mills, Inc.,** Vale, N. C., has taken over and is operating mill of same name, specializing in hosiery for men and children. Voyt Rudisill is president of the new company.

**Cowan & Shain, Inc.,** 357 River St., Haverhill, Mass., has purchased mill property on Winter St. totaling 150,000 sq ft floor space, formerly occupied by Pentucket Mill. The present dye works are expected to be moved to the new location.

**Crescent Textile Supply Co.,** Rockledge, Pa., has installed a new 60-gauge long-section knitting machine and auxiliary equipment.

**Dar-Mon Hosiery Mills, Inc.,** Charlotte, N. C., recently incorporated, has arranged for purchase of Kenrick Hosiery Mill, Inc., for production of full-fashioned hosiery for women. The new company is headed by Ira G. Darnell, Jr., president, and Benjamin W. Garmen, vice-president and treasurer.

**Dunn Woolen Co.,** which closed its two plants at Martinsburg, W. Va., and one at Bunker Hill, in December, has sold all machinery and other equipment.

**Dunson Mills,** LaGrange, Ga., have been purchased by **Pepperell Manufacturing Co.** It is anticipated that there will be no change in the business operation of the mills, nor any change in personnel. Walter E. Morton, president of Dunson, will become general manager.

**Fairview Hosiery Mills, Inc.,** Hickory, N. C., has under construction a one-story building for a new mill, to specialize in production of

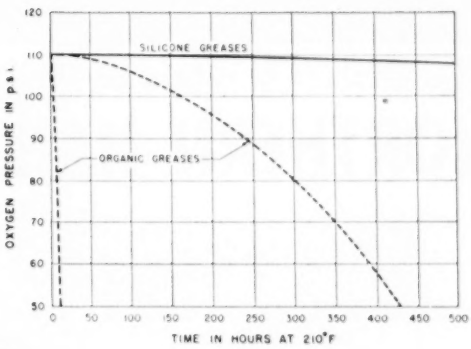


*For further information use Handy Return Card, Page 214*

# specify DOW CORNING SILICONE GREASE 44 to reduce maintenance and increase the life of ball bearings operating at high temperatures

**here's why . . . . .** **1** Dow Corning Silicone Greases have extraordinary resistance to oxidation as indicated by the data given in Figure 1. After 500 hours of exposure to oxygen under a pressure of 110 psi at 210°F in contact with brass as a catalyst, a pressure loss of only 1.5 pounds was registered in the Norma-Hoffman bomb testing of these silicone greases.

OXIDATION RESISTANCE OF SILICONE AND ORGANIC GREASES IN THE PRESENCE OF BRASS AS INDICATED BY OXYGEN-BOMB TEST RESULTS




**2** Dow Corning Silicone Greases show relatively little bleed or evaporation at temperatures in the range of 300-400°F as shown by the data given in Table I.

**3** Dow Corning Silicone Grease 44 is serviceable at temperatures from —40 to 400°F in ball bearings having a maximum speed factor (bore in mm times rpm) of 150,000 to 225,000. The worked penetrometer (ASTM D217-48) for Dow Corning Silicone Grease 44 is: light consistency 300-320; medium, 250-270. Melting points are above 410°F; minimum flash point is 600°F. Ask for data sheet BL-4.

**TABLE I**

**RELATIVE BLEED AND EVAPORATION OF VARIOUS GREASES**

| Temperature in °F | Test[1] | Dow Corning Silicone Grease 44, Light Consistency | High Temperature Petroleum Greases A | B |
|---|---|---|---|---|
| 300 | Bleed, % | 1.3 | 2.9 | 0.2 |
| | Evaporation, % | 0.6 | 2.9 | 13.4 |
| | Total loss, % | 1.9 | 5.8 | 13.6 |
| 390 | Bleed, % | 1.0 | 7.8 | Nil |
| | Evaporation, % | 3.5 | 15.4 | 39.8 |
| | Total loss, % | 4.5 | 23.2 | 39.8 |

[1]Values determined with equipment specified in AN-G-14, except that test samples were held at test temperatures for 24 hours.

**In the bearings of dryers,** Dow Corning Silicone Grease 44 is used to reduce the relubrication schedule from once every 8 hours to once every 3 months. Operating temperatures are in the range of 350°F. Dow Corning Silicone Grease 44 Medium is now specified for all dryers in a large textile plant after 2 years of testing in National and Proctor & Schwartz machines.

**In the bearings of Sanforizers.** Experience in a large textile finishing plant indicates that Dow Corning Silicone Grease 44 can be used to reduce the relubrication schedule on main cylinder bearings from once every 8-hour shift to once every 30 to 45 shifts.

**In the bearings of slashers.** Two years of experience in textile mills indicates that Dow Corning Silicone Grease 44 Light has a service life of about 3 months at temperatures up to 350°F in closed-type Uxbridge Slashers.

**In motor bearings,** Dow Corning Silicone Grease 44 has many times the life of high temperature petroleum greases at temperatures in the range of 300° to 350°F. In permanently sealed or "cartridge" type bearings Dow Corning Silicone Grease 44 Light has a life expectancy of at least 5 years. That has been confirmed in thousands of motor bearings installed during the past 5 years by one of the major motor manufacturers.

**In the bearings of oven conveyor systems,** Dow Corning Silicone Grease 41 gives very satisfactory service even under conditions so severe that continuous, automatic oiling with the best high temperature organic lubricants could not keep bearings operable.

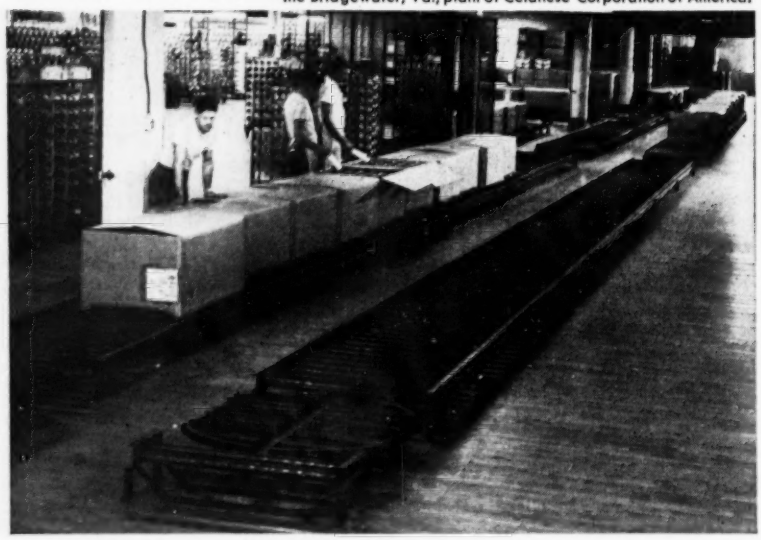
**DOW CORNING CORPORATION** DOW CORNING SILICONES **MIDLAND, MICHIGAN**

Atlanta • Chicago • Cleveland • Dallas • New York • Los Angeles • Washington, D.C.

In Canada: Fiberglas Canada Ltd., Toronto • In England: Midland Silicones Ltd., London

foot-friendly!

Worker-comfort, cleanliness, lasting economy and ease of maintenance, are dividends of this floor of Northern Hard Maple in the Bridgewater, Va., plant of Celanese Corporation of America.



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NORTHERN HARD MAPLE

• When the old-timers laid floors of cheerful, *resilient*, Northern Hard Maple in their mills, they did the whole textile industry a good turn. As these fine old floors stood up year after year, the brush and broom brought their lustre to satin-smoothness. No other floor or floor covering has ever been found to match the way Maple fights abrasion without splintering, offers no lodgement to dirt or lint, resists oil and grease. And maintenance of Maple is *so easy*. "There's always a new floor underneath."

the finest floor that grows

As every inspector knows, *weariness* is the greatest cause of mistakes and slips. Uncomfortable floors make workers weary quickly. Maple floors are "foot-friendly"—they keep folks fit and alert longer. This pays very real profit, year-in, year-out.

For today's TOP buy in flooring, MFMA recommends either Second or Second-and-Better grades. These beautiful, absolutely sound, *economy* grades are now bundled 2 feet and longer as the stock will produce. They save money today, and in the years ahead.

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See Sweet's
(Arch. 12K-MA)
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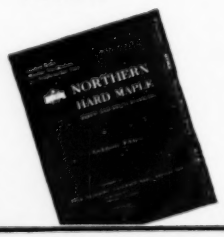
Write for NEW TEXTBOOK ON FLOORING




FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH


## What the TEXTILE MILLS are doing

socks for men and boys. The new company is headed by Clarence L. Whisnant and Paul C. Shipman.

**Ern Knitwear Co., Inc.,** was recently chartered to manufacture outerwear. Alexander Berman, 401 Broadway, New York, N. Y., is attorney and representative.

**Florida Knitting Mills** have completed plans for construction of a plant at Orlando, Fla., for production of nylon mesh gloves. Maurice Sherr is president of the firm as well as head of Becopa Glove Mills, Inc., New York.

Sandra B. Grady, 60 Ridge St., Pawtucket, R. I., is attorney and representative for the newly chartered **Franklin Textile Co.**

**Freydberg Brothers-Strauss, Inc.,** 375 Fairfield Ave., Stamford, Conn., rayon ribbons, has acquired property previously owned by Petroleum Heat & Power Co., and will occupy for expansion.

Stanley S. Ostrau, 450 Seventh Ave., New York City, is attorney and representative for the recently chartered **Gandy Carter Knitwear Co., Inc.** Outerwear will be manufactured.

**Gilman Hosiery Co.,** Franklin, N. H., has been acquired by new interests headed by Lawrence J. Gauthier.

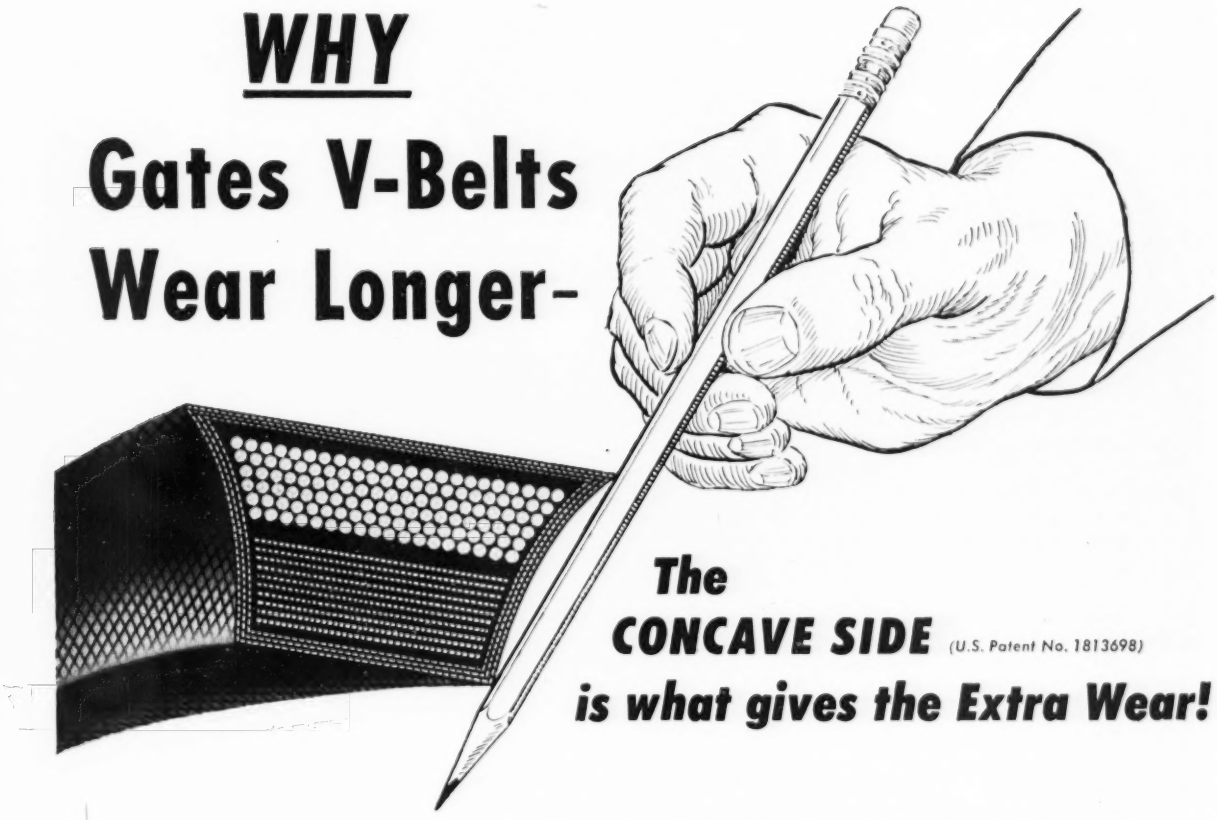
Approximately 20,000 sq ft space are available in the new quarters of **Globe Knitwear Co.,** 831 Arch St., Philadelphia, Pa., as compared with 12,000 at the former location.

**Hess, Goldsmith & Co.,** has completed plans for a two-story addition to its mill at 356 North Pennsylvania Ave., Wilkes-Barre, Pa. It will be used for warehouse, shipping, and other service.

**Holly Mills, Inc.,** was recently organized, according to Rush S. Dickson, chairman of the board, and Lawrence W. Guild, president, to operate the combined facilities of the Holly Mills, Mt. Holly, N. C., and Guild Mills Corp., Laconia, N. H. The new corporation expects to increase the number of employees at both mills.

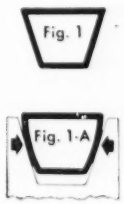
An expansion program which will increase its output by 35% has been

# WHY
# Gates V-Belts Wear Longer-



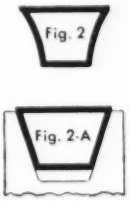
## The CONCAVE SIDE (U.S. Patent No. 1813698) is what gives the Extra Wear!

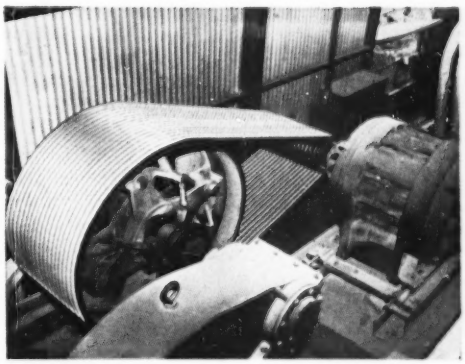
Take any *straight-sided* V-Belt (Fig. 1) and bend it as it bends in going around its pulley. You will clearly see its sides *bulge out* (Fig. 1-A). These sides therefore press *unevenly* against the V-pulley and this causes extra wear at the point shown by arrows (Fig. 1-A).




**Now bend a Gates Vulco Rope with CONCAVE SIDES (Fig. 2).**

You will see the precisely engineered CONCAVE SIDES fill out to an exact fit in the sheave-groove (Fig. 2-A). The sides press *evenly* against the V-pulley. All wear is distributed *uniformly* across the *full width* of the Gates Vulco Rope—and this means longer belt *life* and *lower* belt *costs* for you.



Typical Gates Vulco Rope Drive—the Gates V-Belts are built with Concave Sides to insure longer belt wear.

When you buy V-Belts, be sure to get the V-Belt with the CONCAVE SIDES—the Gates Vulco Rope!

Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and in 71 foreign countries.

CS-533

**V-Belts—Hose**
**Molded Rubber Goods**
**for industry**
***World's Largest Maker of V-Belts***

Gates® VULCO ROPE DRIVES

THE GATES RUBBER COMPANY • DENVER, U.S.A.

# The Precision Bobbin Built For the Spindle

A precision built EPI bobbin will help in producing high quality yarn. It pays dividends by less spindle and machine wear and lower power consumption . . . it is built with this in mind.

The EPI bobbin, designed for twisting synthetic yarns, is constructed to fit the spindle . . . no guesswork. It is built and assembled from the spindle bearing outwards with every part machined concentric to the spindle.

It's a strong bobbin. The patented* expanding lock ring assembly with the aluminum core shown on the diagram enables this bobbin to withstand the tremendous pressure of nylon and other tenacious yarns even under steaming conditions.

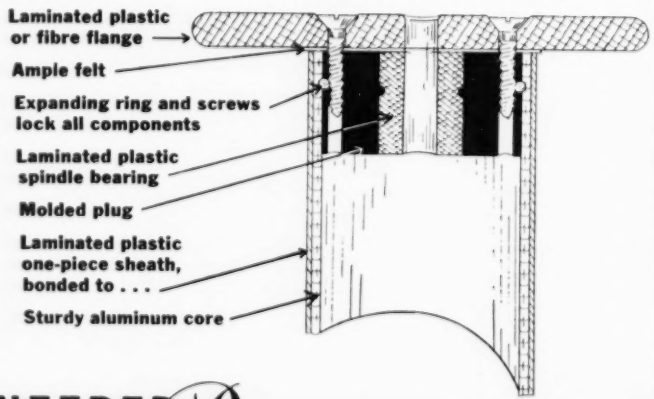
The laminated plastic provides a smooth hard yarn surface.

Every EPI bobbin is dynamically balanced to close tolerances to compensate for material variations. At high speeds even minute variations soon show up to cause spindle wear and poor quality yarn. Experience shows EPI dynamic balance pays quick dividends.

The thousands of EPI bobbins in service for five years have proved that their special features pay off in quality yarns, lower maintenance costs and power consumption.

It will pay you to write, wire, or call for full details on the EPI precision bobbin.

*U. S. Patent 2,625,343


Laminated plastic or fibre flange
Ample felt
Expanding ring and screws lock all components
Laminated plastic spindle bearing
Molded plug
Laminated plastic one-piece sheath, bonded to . . .
Sturdy aluminum core

ENGINEERED *Plastics*

INCORPORATED

Gibsonville. North Carolina


## What the TEXTILE MILLS are doing

planned by **Huntsville (Ala.) Manufacturing Co.** Approximately 11,000 additional spindles, 200 looms, and a new building adjacent to Mills No. 1 and 2 in Huntsville are on the program.

The faculty and staff of Furman University, Greenville, S. C., toured **Judson Mills,** named in 1913 for one of the university's professors, on January 26. On February 3 a similar group from Bob Jones University paid the plant a visit.

The property at Lafayette, R. I., known as **Lafayette Mills** and formerly operated by **Rodman Manufacturing Co.,** has been taken over by Warren B. Finn, Jr., East Greenwich, R. I., and associates. The plant is being converted for manufacture of machine laces, with a total of 16 lace machines and auxiliary equipment being installed.

Crescent Corp. has completed purchase of the **Lincoln (R. I.) Bleachery,** and will sell the machinery and real estate.

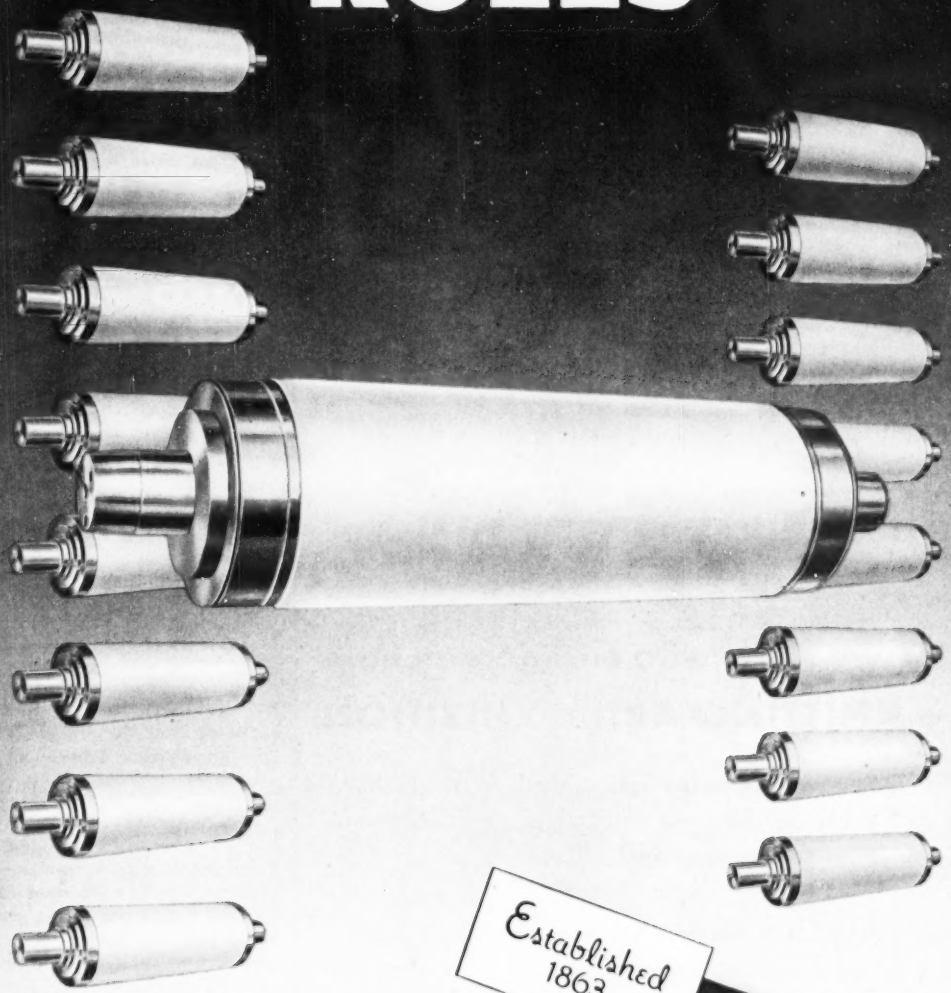
**Lowell Textile Institute** was recently visited by Dr. John F. Scanlan, in charge of the Chemistry Section of the Animal Fats Division, and Dr. Waldo C. Ault, head of the Division of the Eastern Regional Research Laboratory of the U. S. Department of Agriculture. The gentlemen were guests of the Research Foundation, which has undertaken for the Bureau of Agricultural and Industrial Chemistry an economic survey of actual and potential uses of the by-products of the wool scouring industry.

**Mack Hosiery Co.,** West Eaton, Pa., has installed new machinery to double its production and number of employees. The expansion will enable the firm to produce about 1500 pairs of full-fashioned hosiery a week. It will also be able to process several hundred pairs of hose a week.

**Monroe Mills,** Monroeville, Ala., have announced plans for a $200,000 expansion program. 41,000 sq ft floor space for a new dyeing department will be added, as well as additional warehouse space and an enlarged shipping department.

**Narrow Fabric Co.** has added a

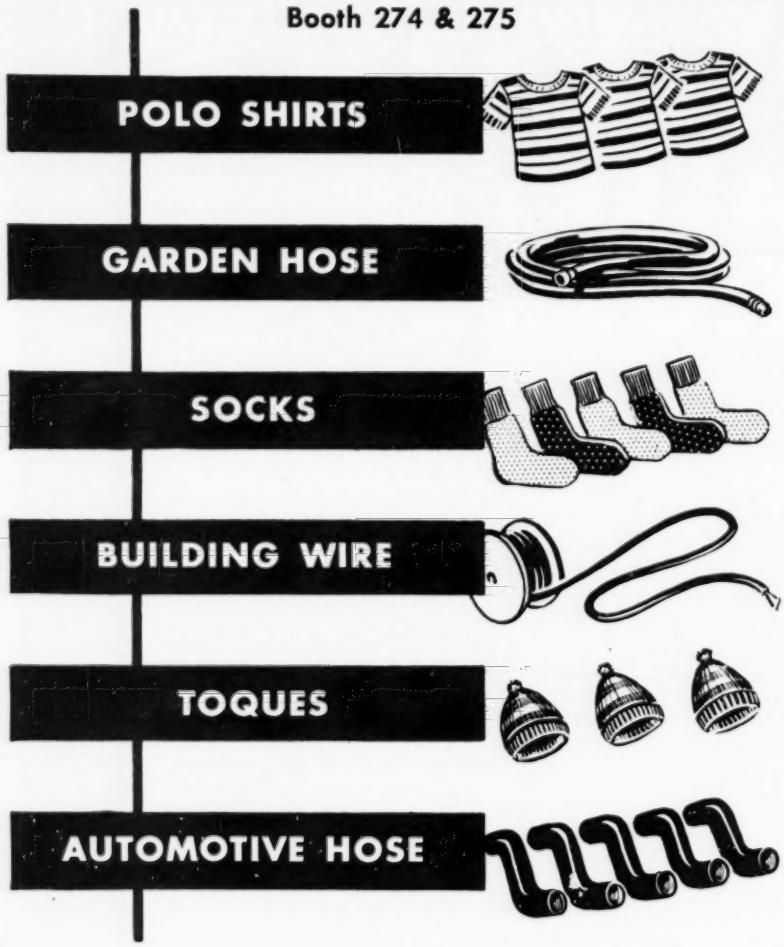
# "HOLYOKE" CALENDER ROLLS




## HOLYOKE MACHINE COMPANY

CALENDER ROLLS for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS

See the **FIDELITY** exhibit at the Knitting Arts Show
Booth 274 & 275




## WHY we show wire and garden hose in a KNITTING ARTS EXHIBITION

This year—in addition to exhibiting well-known textile products manufactured on Fidelity Knitters—we will also display outstanding examples of how Fidelity has long applied knitting arts to non-textile industries.

That is why you will find such things as Non-Metallic Sheathed Cable, Weatherproof Wire and Garden Hose in our textile exhibit when you visit our booths (274 & 275) at the Knitting Arts Exhibition.

*Designers and Builders of Intricate, Automatic Precision Machines*

**FIDELITY MACHINE COMPANY, INC.**

SINCE 1911

3908-18 FRANKFORD AVENUE, PHILADELPHIA, PA.

## What the TEXTILE MILLS are doing

loom department to produce woven nylon and rayon fabrics for the underwear industry. At the same time, other production facilities are being expanded.

**Newton (N. C.) Glove Manufacturing Co.** has a one-story addition to the mill under construction.

**Parflex, Inc.,** 8307 Torresdale Ave., Philadelphia, Pa., has leased 25,000 sq ft space in a mill building at 52 Valley St., Providence, R. I. The present plant will be moved to the new location.

**Patent Process, Inc.,** recently chartered, will operate a textile screen printing plant. The firm is represented by Fred N. Magrath, 3098 Dare Place, Bronx, N. Y., attorney.

**Percy Kent Bag Co.,** Kansas City, Mo., is planning construction of a new plant at Winner Road and Topping Ave., where about four acres of land have been acquired. The entire project is estimated to cost in excess of $800,000.

**Pomett Manufacturing Co.,** 215 East Eighth St., Los Angeles, Calif., has leased property at 530 East Eighth St. and will enlarge capacity at the new location, with installation of additional equipment. The present plant will be moved there.

Samuel Temkin, 97 Emeline St., Providence, R. I., is attorney and representative for the newly organized **Providence Textile Co.** Cotton and rayon specialties will be manufactured.

The plant of Thadden Jordan Furniture Corp., Roanoke, Va., has been acquired by **Roanoke Mills, Inc.** Improvements are being made and equipment installed. A one-story addition will be constructed, to be used as a bleachery and dye house.

The Luray Textile Division plant of **Schwarzenbach-Huber Co.** has installed additional nylon and Orlon throwing machinery.

New 66-gauge full-fashioned knitting machinery has been installed at **Sharnay Hosiery Mills,** Philadelphia, Pa.

**Silver-Knit Hosiery Mills, Inc.,** High Point, N. C., is planning an ex-

# HERE'S WHAT WE MEAN BY *Quality* IN "Buffalo" AIR CONDITIONING UNITS

## HIGH EFFICIENCY FANS

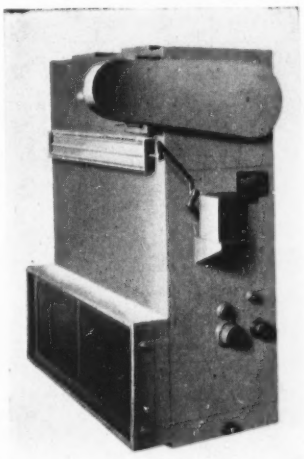
Effective air conditioning depends on effective distribution of the conditioned air. This is one reason why "Buffalo" put so much care into the design of its new mixed-flow fans with the bellmouthed housings. Quieter and more efficient than forward-curve designs, they have extremely stable performance over a wide range of capacity. A further development, the oversize hollow shafts, assure perfect balance and non-pulsating operation, eliminating the critical speeds of long shafts.

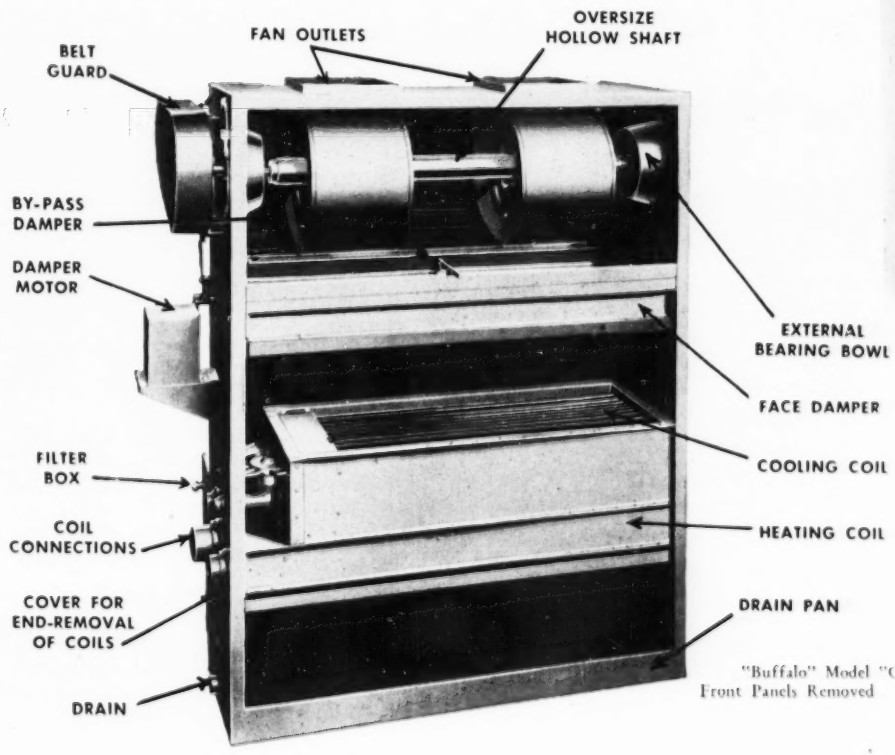
## *Other Important Features to Consider*

"Buffalo" units have removable panels for accessibility and easy maintenance. They may be broken down into sections for moving into your building through standard doorways. Parts are interchangeable. External bearing boll permits lubrication from outside. For these and other quality features that mean dependable air conditioning at moderate cost, write now for Bulletin 3703A describing "Buffalo" PC and VPC Cabinets.

## QUALITY COOLING COILS, HEATING COILS, DAMPERS

The coils are the well-known lightweight Aerofin, in standard trade sizes,—assurance of satisfactory service. For exact control, "Buffalo" offers motor-operated automatically controlled by-pass dampers in four styles to suit the installation.






"Buffalo" Model "G" Type "VPC" Cabinet with Front Panels Removed

DIAMOND JUBILEE 75 YEARS ANNIVERSARY

"Buffalo" FIRST FOR FANS

# BUFFALO FORGE COMPANY

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*PUBLISHERS OF "FAN ENGINEERING" HANDBOOK*

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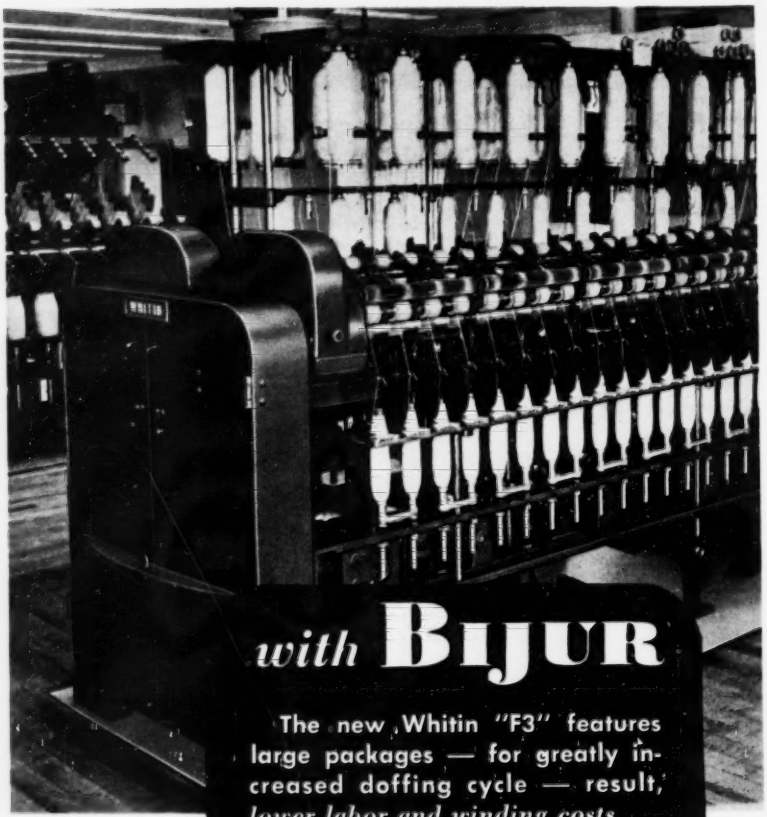
# LOW COST MAINTENANCE



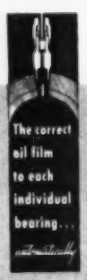
*with* **BIJUR**

The new Whitin "F3" features large packages — for greatly increased doffing cycle — result, *lower labor and winding costs.*

Bijur automatic lubrication on the Whitin Spinning Frame meters just the right amount of oil at the right time to all head end bearings while the frame is running—result, *lower operating and maintenance costs.*

Specify Bijur lubrication on all new mill equipment you buy — result, *longer machine life, low maintenance, increased production.*

A Bijur engineer can solve your lubricating problems on all textile machinery.




N-5

**BIJUR**

**LUBRICATING CORPORATION**

Rochelle Park • New Jersey

*Pioneers in Automatic Lubrication*

280


## What the TEXTILE MILLS are doing

pansion program over the next two years which will cost over $400,000. The majority of the expenditure will be used for additional machinery and equipment.

A $250,000 addition to the plant of the **Shenandoah (Va.) Knitting Mills** is under construction.

Milton C. Epstein, 473 Florence St., Fall River, Mass., is president and treasurer of the newly organized **Somerset Processing Corp.,** which will operate a mill for printing of fabrics.

The former Buena Vista, Va., mill of Burlington Mills Corp., which suffered a fire loss, has been purchased by **Southern Industrial Associates, Inc.,** who has rebuilt the plant. Property has been leased to **Duroflex, Inc.,** E. C. Hemes, president, manufacturers of rubber-coated fabrics. A new addition will be constructed in the near future.

A one-story building is under construction at **Southern Knitwear Mills, Inc.**

The **Star Woolen Company,** Cohoes, N. Y., has installed a pension plan for salaried and hourly employees. The cost of the plan is borne entirely by the company.

A dyeing and finishing mill is being operated by the recently chartered **Statesville (N. C.) Finishing Co., Inc.** Samuel Childers, Hickory, N. C., and G. W. Leonhardt, Morganton, N. C., are principal incorporators.

The **Standard Tytape Co.,** Asheboro, N. C., has a new plant under construction at Hendersonville, N. C., to which its operations will be moved. The plant and equipment represent an investment of about $300,000.

**Technical Tape Corp. of California,** an affiliate of Technical Tape Corp., New York, N. Y., has taken over a three-story building at Burbank, Calif., for manufacture of cloth tapes, fiber glass-reinforced tapes, and other tape specialties.

**Textile Corp. of America, Inc.,** has been chartered for manufacture of cotton and woolen goods. Arthur Jaffe, 370 Manet Ave., Quincy, Mass., is treasurer and representative.

# *Quality - Integrity*

Crater Lake, Cascade Mountains
Southern Oregon

## AHCOVATS*

*An outstanding range of fast blues.*
*Bright, navy and dark.*

**AHCOVAT BLUE BCF**

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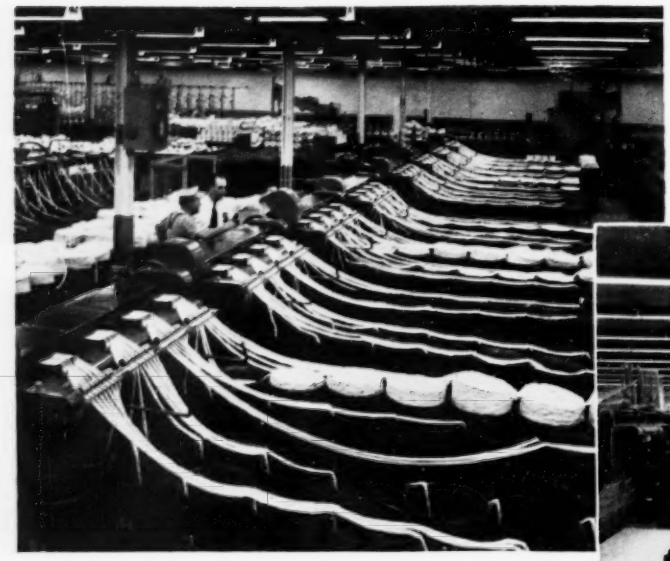

## At first glance...

. . . you don't see much Bahnson Equipment in these photographs—but it's there.

Even if you visited this new plant, you might not notice the air conditioning system immediately—but it's there.

And it's there for a purpose—to provide Lyons Synthetics Division of Orr Mills with 283,400 cubic feet of clean, fresh air at the precise temperature and humidity needed. That's a complete change of air every few minutes; and the controlled atmosphere keeps the machines running perfectly . . . keeps fibers properly conditioned . . . keeps workers at peak efficiency.

So even if you don't see the gleaming ductwork and efficient Bahnson distribution grilles at first glance, you see and feel the **results** the moment you enter the rooms.

Hidden away overhead are the eight Bahnson Centrispray Washers that breathe life to those ducts . . . and hidden away in the office is an operating expense record that will soon show cost figures to prove, beyond all doubt, that this plant produces more cloth, and higher quality cloth, at lower unit cost.

Personnel records will show less lost time—while other records will show better machine operation, less maintenance, less down time.

We are proud to have been chosen to supply the air conditioning system at Orr Mills. We think it was a good choice because the Centrispray Air Washers, fans, controls, dampers, grilles, and most other components were designed and fabricated by Bahnson. The Bahnson Company can provide a completely integrated system because we have the experience and the engineers necessary . . . the machines and the men to operate them. In short, this system was built by textile air conditioning experts.

**To learn more about Bahnson Textile Air Conditioning Systems, ask to have an engineer call, or write for a copy of our latest Catalog, 22A.**

Bahnson Company

ENGINEERS AND MANUFACTURERS

WINSTON-SALEM, N. C.

Caro-Gant
REG. U. S. PAT. OFF.
The original 100% active warp dressing
A blend of specially processed fats, binding agents, penetrants and anti-mildew agents
Contains no moisture or metallic salts and is readily compatible with starch solutions
Standardize on Caro Gant... the standard warp dressing in mills everywhere
HART PRODUCTS
BASED ON RESEARCH
THE HART PRODUCTS CORPORATION
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# HYSTER PRESENTS...

## Two Completely NEW Lift Trucks!

30" Free Lift
75" Turning Radius
38" Wide
82½" Collapsed
Height (with 9' lift)

**The Ultimate in 4000-lb. Lift Truck Maneuverability**



**THE UC-30**

Capacity, 3000 lbs. (24" load center)
Length, only 74⅝"

**THE YC-40**

Capacity, 4000 lbs. (at 24" load center)
Length, only 78¾"

### STREAMLINED AND FUNCTIONALLY DESIGNED FOR UNEQUALED PERFORMANCE IN CAR LOADING, WAREHOUSE AND ALL OTHER CLOSE-QUARTER OPERATIONS

Hyster now offers, in addition to the pneumatic-tired 4000-lb. YT-40 Lift Truck, a *new* lift truck in the 3000-4000-lb. class—*designed specifically for close-quarter operation!*

*The new Hyster YC-40* is smaller than the pneumatic-tired YT-40 because it is *functionally* designed to more compact dimensions, utilizing smaller cushion tires. *The YC-40 is recommended for those applications where it is not necessary to use pneumatic tires.*

*The new Hyster UC-30* is basically a YC-40 Lift Truck with a lighter counterweight, but with the same engine. Both incorporate advanced features not found in any other lift truck today! Call your Hyster dealer, or write for Catalog 1241 to:

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Portland 8, Oregon

1010-57 Myers St.
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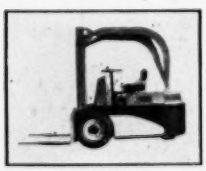
### Be Sure to Call HYSTER Before You Buy ANY Lift Truck!

**Hyster 20**
for 1000-2000-lb. work requiring pneumatic tires.

**Hyster UC-30**
for 3000-lb. close-quarter work. Cushion tires.



**Hyster YT-40**
for 4000-lb. work requiring pneumatic tires.

**Hyster YC-40**
for 4000-lb. work in close quarters. Cushion tires.

**HYSTER COMPANY** • FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands

# *Let's talk* AT THE SHOW

You've read about it, you've heard about it, but nothing is as effective and convincing as seeing a Turbo AD-48 in operation. Now you can see the Turbo AD-48 at the 1953 Knitting Arts Show in Atlantic City.

You'll find that the Turbo AD-48 is really two machines in one — it preboards with steam, boards with heated air. It has a production rate of 120 to 130 dozen pairs of static-free stockings per 8-hour day . . . with *one* operator. You'll see precision engineering at its finest, with automatic timing and controls to assure you of perfectly finished stockings.

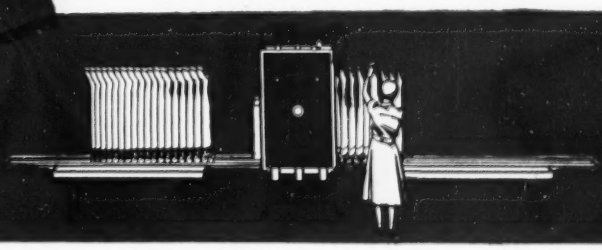
You'll ask questions without having to raise your voice, for the AD-48 is quiet. There is no banging or jolting. You'll see why it's "gentle as a lamb", how fine stockings are treated with the care they deserve. You'll see the high production of beautifully finished stockings.

There will be other "stars" in the Turbo Show too, besides the AD-48. So . . . stop in and see them — and us — find out why Turbo gives you more "firsts", fewer "seconds".

If you can't come to the Show, the Turbo story can easily come to you. Write for complete information on Turbo Machines for Preboarding and Boarding.

TURBO MACHINE COMPANY
*Lansdale, Pennsylvania, U.S.A.*
Southern Rep.: F. W. Warrington Co., Charlotte, N. C.

**TURBO**
**"Gentle as a Lamb"**



# New Westinghouse "packaged-type" slasher drives cut installation and operating expense

Westinghouse pioneered in the development of multi-motor slasher drives. Over 250 of our drives are now in service . . . far more than all other makes combined. These drives have been tested and proved in operation. We've learned from this experience how to build drives that will do a better job for your mill. Now Westinghouse offers packaged-type slasher drives which will save even more on installation cost and operation expense.

***Installation is easy and inexpensive***—All power supply and control equipment is mounted in a single, factory-wired, pre-tested, compact cabinet. This factory wiring greatly reduces installation expense and makes it simple for your own men to expertly install the unit. Too, the compactness of the drive makes it possible to fit the unit into valuable mill space; simplifies servicing of the equipment.

***Few stoppages, increased production***—These new drives let your slashers run safely at any speed within the capacity of your dryers. Yet because they hold tension constant, you practically eliminate stoppages due to broken ends. Also, this constant tension eliminates soft beams. As a result there are fewer broken ends on your looms . . . fewer loom stops.

***Handling costs go down***—As much as 20% more warp can be wound on the beam because tension is held constant. This means fewer beam changes and fewer loom interruptions for starting new beams. You benefit by a substantial saving in handling costs.

***No bearing lubrication***—The M-G set, booster set and all drive motors are equipped with pre-lubricated, sealed bearings. Grease can't get out and dirt can't get in. Bearing lubrication is completely eliminated.

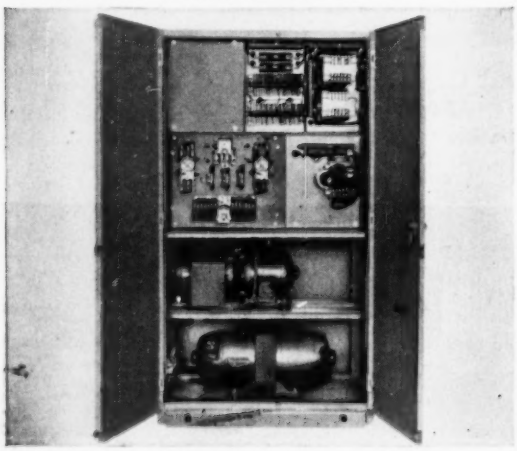
***No moving parts in exciter or regulator***—The new packaged-type drive uses a static selenium-type rectifier to excite the d-c generator and drive motors. A magnetic amplifier regulates the beam motor to provide constant tension. Both the exciter and regulator have no moving parts and require no maintenance.

J-94983

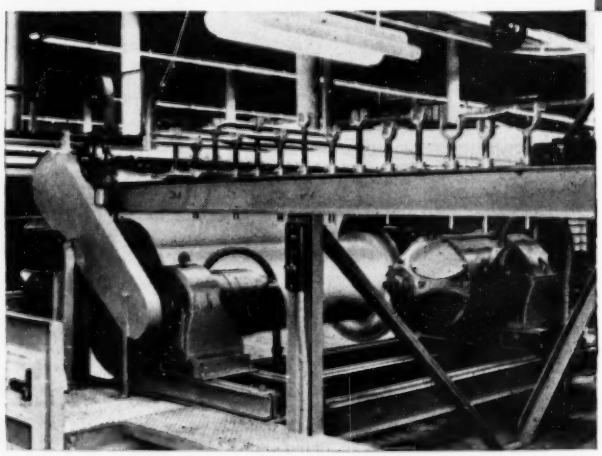
YOU CAN BE **SURE**... IF IT'S

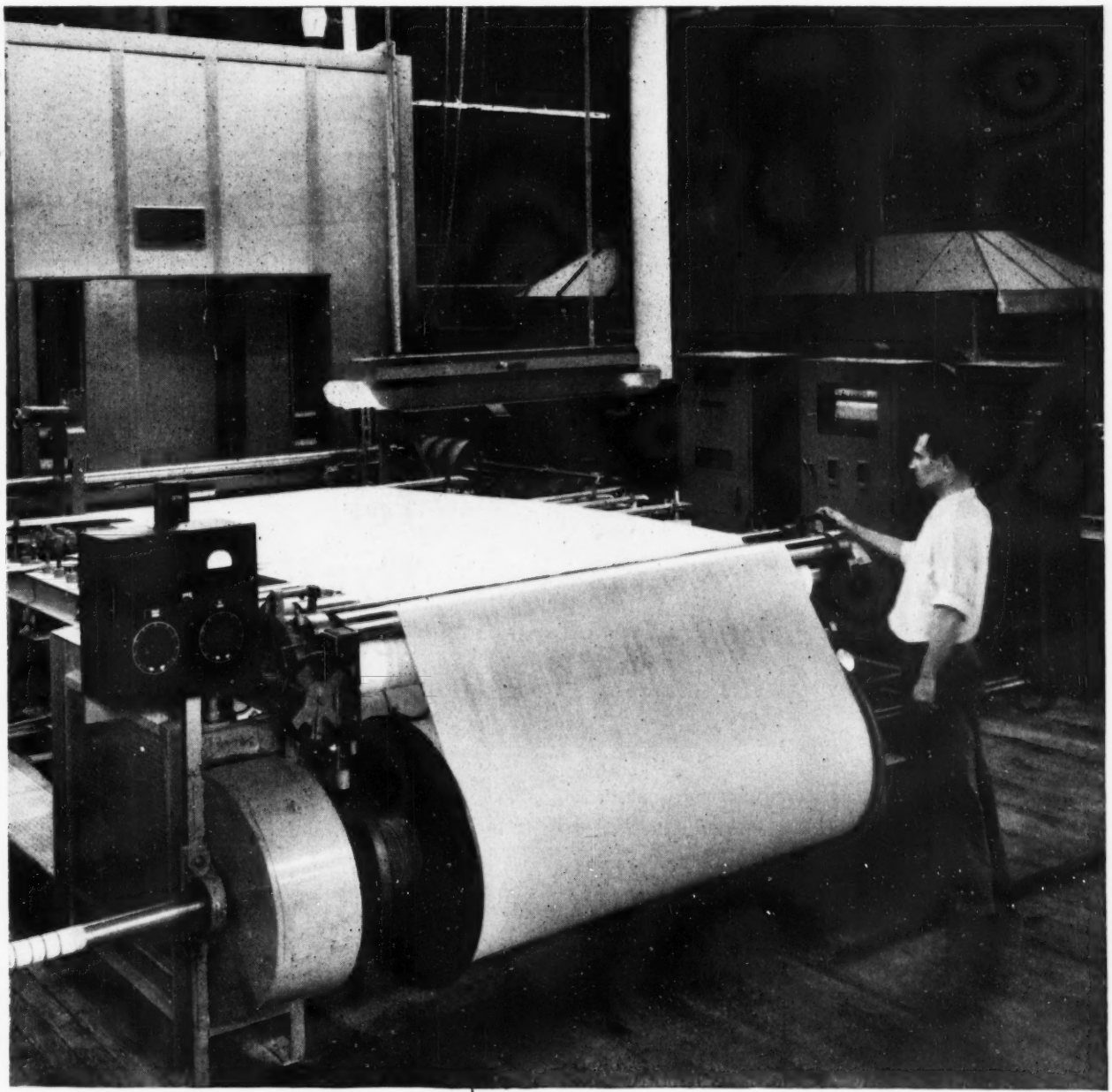
**Westinghouse**

The new Westinghouse Packaged-Type Slasher Drive greatly reduces your installation expense. All power supply and control equipment is mounted in this single, factory-wired, pretested, compact cabinet.



The Westinghouse Gearmotor, at left, drives the delivery roll; the gearmotor at right, the beam. Co-ordinating the motor and speed reducer in one unit results in easier installation and reduces maintenance.





## FIND OUT MORE ABOUT HOW YOU CAN REDUCE SLASHING COSTS

Mail the coupon to find out more about how Westinghouse Packaged-Type Slasher Drives will improve your operations. And when you're planning any expansion or modernization, be sure to call Westinghouse early.

Westinghouse Electric Corporation
P. O. Box 868
Pittsburgh 30, Pennsylvania

Please send my free copy of *Westinghouse New Packaged-Type Multi-Motor Slasher Drives*, B-5616.

Name _____

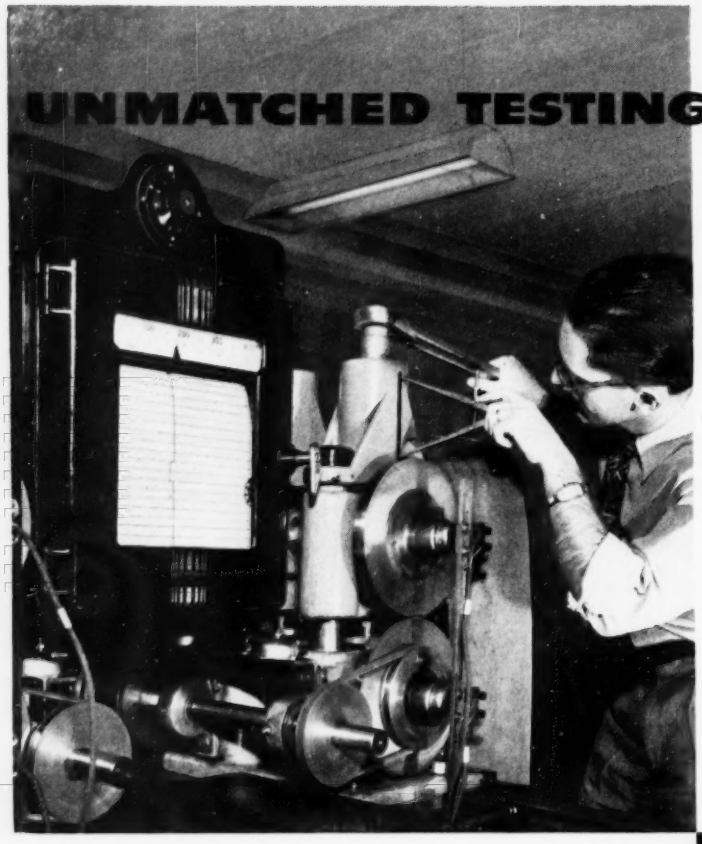
Company _____

Street _____

City _____ State _____



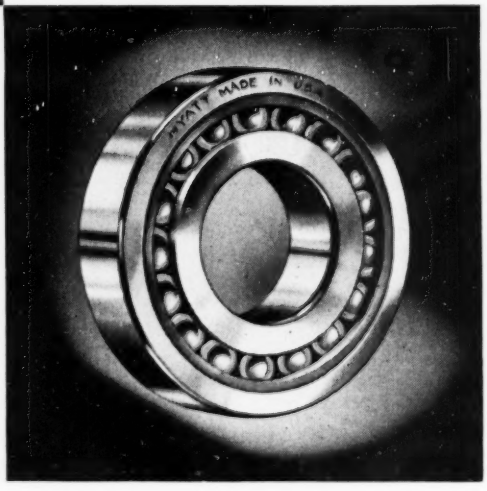
For further information use Handy Return Card, Page 214



# UNMATCHED TESTING FACILITIES...

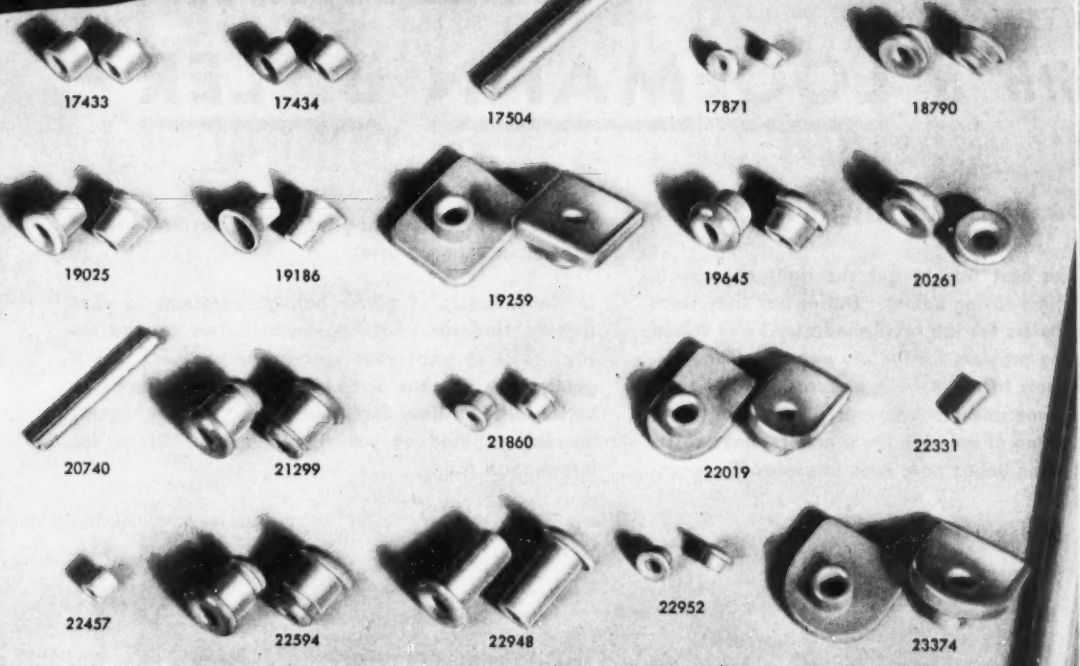
## one of many reasons for Hyatt leadership!

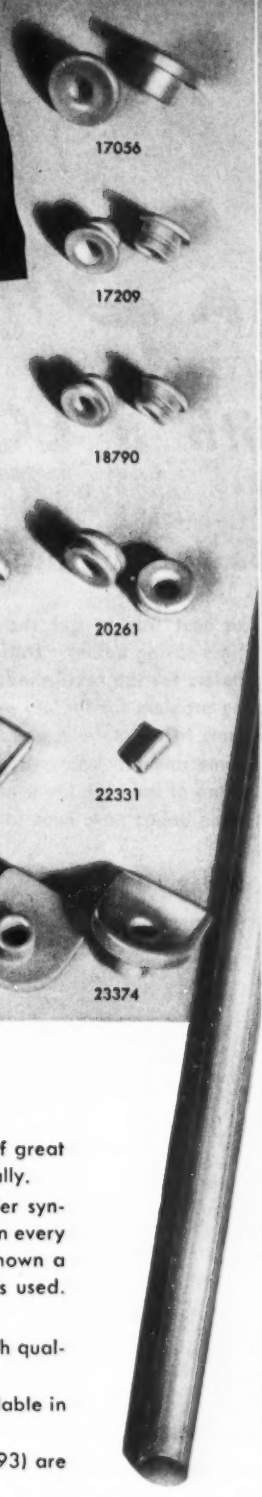
In testing laboratory or manufacturing plant, Hyatt's facilities are second to none. Continuing research in methods and materials, and exacting inspection with the finest in modern equipment, has made the Hyatt name a synonym for "highest quality." That's why Hyatt Roller Bearings are so widely used by leading manufacturers of textile machinery. Their design engineers know that Hyatt bearings have been "performance-proved" for smoother, trouble-free operation and longer life. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.




**HYATT ROLLER BEARINGS**

# ALSIMAG® *Guides* for the Knitting Industry




**USES**

- Yarn Box Eyelets
- Trough Eyelets
- Snapper Eyelets—Tapered, Shouldered, Plate, Grooved
- Oil Cup Eyelets
- Stop Motion Eyelets and Inserts
- Carrier Tubes
- Trough Rods
- Tension Rods
- Tension Rings
- Drop Wire Rings
- Miscellaneous Guides for Special Purposes; for example: inserts for fixtures on Trough Floats

**ADVANTAGES**

**1.** *Quality*. Smooth, homogeneous material of great hardness. Uniform physically and dimensionally.

**2.** *Long Life*. Test these guides on finer denier synthetic yarns at high speed and high tensions. In every case reported to us, AlSiMag guides have shown a material improvement over any former guides used.

**3.** *Fewer Replacements*.

**4.** *Uniformity* of guides makes for uniform high quality in finished products.

**5.** *Lighter Tensions*. AlSiMag guides are available in controlled finishes.

**6.** *Electrically Conductive* guides (AlSiMag 193) are available to aid in the control of static.

TEST SAMPLES SENT ON REQUEST.

AlSiMag No. 22615
WEIGHT: 0.60 Grams
I.D.: 0.0935"
THICKNESS: 0.046"

AlSiMag No. 17805
WEIGHT: 0.450 Grams
I.D.: 0.438"
THICKNESS: 0.084"

AlSiMag No. 19185
WEIGHT: 0.212 Grams
I.D.: 0.385"
THICKNESS: 0.048"

AlSiMag No. 20041
WEIGHT: 0.306 Grams
I.D.: 0.469"
THICKNESS: 0.050"

AlSiMag No. 20776-A
WEIGHT: 0.229 Grams
I.D.: 0.437"
THICKNESS: 0.050"

AlSiMag No. 20776-B
WEIGHT: 0.166 Grams
I.D.: 0.437"
THICKNESS: 0.033"

AlSiMag No. 21088-A
WEIGHT: 0.322 Grams
I.D.: 0.482"
THICKNESS: 0.050"

AlSiMag No. 21088-B
WEIGHT: 0.180 Grams
I.D.: 0.482"
THICKNESS: 0.028"

AlSiMag No. 21501
WEIGHT: 0.408 Grams
I.D.: 0.625"
THICKNESS: 0.062"

THE MOST COMPLETE SELECTION OF GUIDES EVER SHOWN FOR ALL TYPES OF KNITTING WILL BE FEATURED BY **AlSiMag**

**SPACE 113**
KNITTING ART EXPOSITION
April 27 thru May 1, 1953

52ND YEAR OF CERAMIC LEADERSHIP

## AMERICAN LAVA CORPORATION

**CHATTANOOGA 5, TENNESSEE**

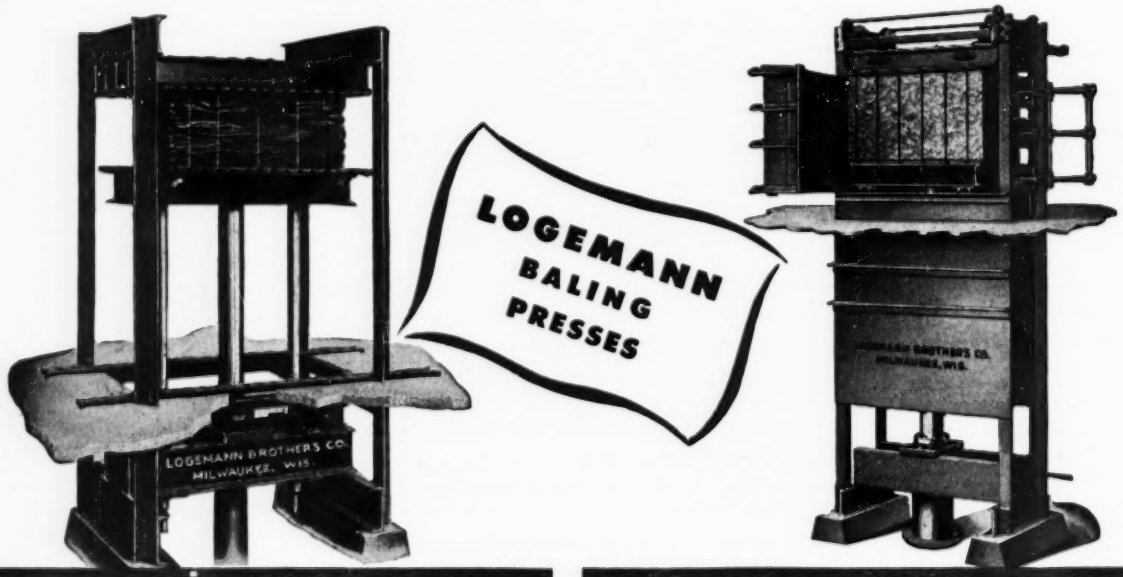
SALES ENGINEERS: NORTH AND EAST: Jay S. Gosnell, 671 Broad St., Newark, N. J., Mitchell 2-8159. SOUTHEAST: Joe E. Spearman, 401 Belton St., Charlotte, N. C., 4-1525. ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tenn., 5-3411.

# MAKE YOUR BALING A *Profitable* OPERATION *with a* LOGEMANN BALER

## Tell Us Your Baling Problems

THAT'S the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for factory owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance costs. Many Logemann balers have been in profitable operation since the turn of the century—evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your factory, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.




Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

## LOGEMANN BROTHERS CO.

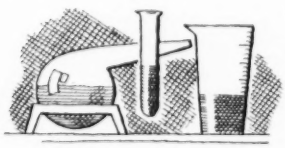
**3100 West Burleigh Street • • • Milwaukee 10, Wisconsin**

Rayon Reports

Published Monthly by American Viscose Corporation, New York, N. Y. [illegible]

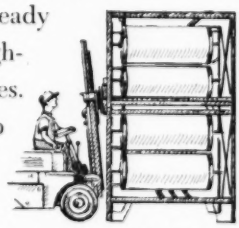
# Broad Avisco Research Program Brings Continuing Benefits to Knitting Industry

A continuing program of research and development has enabled Avisco to serve the knitting industry with a number of pioneering achievements.



TEXTILE RESEARCH

Typical are the steady improvements in acetate yarns, and the methods of packaging them on tricot spools ready for use on high-speed machines. Special Avisco shipping racks provide efficient storage with maximum protection of yarn and final fabric quality.

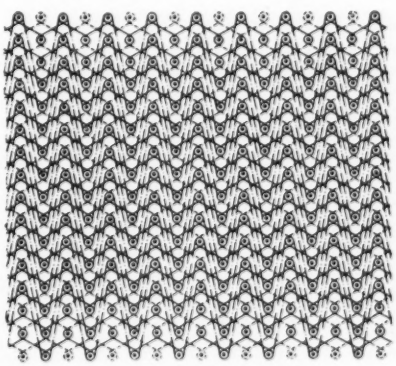


SHIPPING RACKS

Avisco filament rayon is widely used in men's sport shirts and other apparel, permitting vat-dye performance. Avisco rayon staple—one of the most useful of all modern fibers—is made to precise specifications of denier, luster, length and crimp for knitting requirements. Used alone or blended with other fibers, it is suitable for spinning into yarn by any standard spinning system.

SPORTSWEAR

Improvements in knitting machines and finishing techniques have resulted from research at Avisco's Textile Research Department, Marcus Hook, Pa., while the development of Filatex elastic yarns—latex core covered with yarns such as rayon, nylon, cotton—has brought notable advantages to quality swim suits, foundations, men's hose, and other knitted apparel.



TRICOT FABRIC DESIGN

Textile chemicals developed by Avisco have helped solve many static, lubrication, and stabilization problems. Outstanding among Avisco's chemical developments is the Avcoset process, that gives true, permanent washability to rayon, offering important new opportunity for knitted rayons. And Avisco's continuing research brings constant improvements in dyeing, finishing, and fabric development.

FINISHES

MAKE USE OF *Avisco*®
4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

*America's first producer of man-made fibers*
RAYON ACETATE VINYON* FILATEX®

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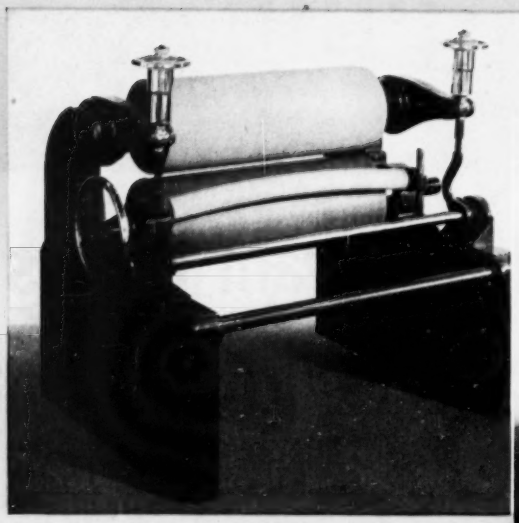
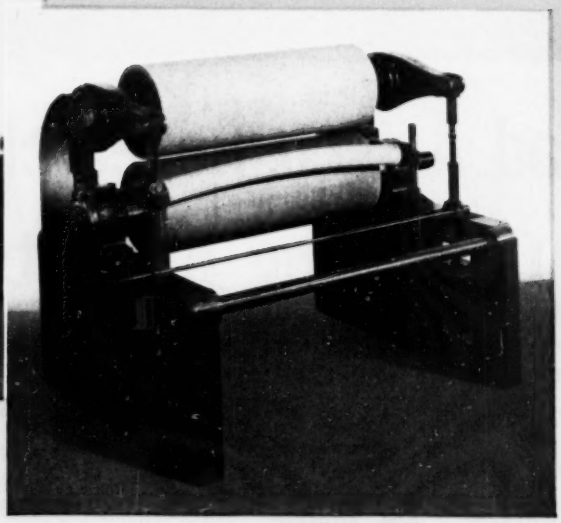
*TMC & CCC

AMERICAN VISCOSE CORPORATION



Left: Butterworth Pad with micro-set pressure

Below: Butterworth Pad with pneumatic pressure



# At Last a Basic Padder

**Pneumatic or Micro-Set . . . up to 15 tons . . .**
**2-3 rolls any width . . . average 12-week delivery**

There's something new in Padders. A 2-year program for the standardization of component parts has now been completed and Butterworth offers a choice of 2-roll and 3-roll padders and mangles . . . in any width . . . with an average delivery of 12 weeks.

With the new Butterworth Padders, there is a choice of pneumatic or micro-set pressure systems, with pressures up to 15 tons. The micro-set system is designed to operate easily and accurately up to the full 15-ton loading pressure. The pneumatic system is complete with pressure indicators and controls.

Frames and housings are of rigid cast iron construction, properly braced. Rolls are mounted in spherical roller bearings designed for long life and trouble-free operation. Nip rolls can be furnished all rubber covered or in combination with stainless steel rolls. Accessories such as expander bars, friction let-off and winders are included to meet operating requirements.

Before you do anything about new pads or mangles, let us send a Butterworth engineer to your mill with facts and figures on these new Butterworth Pads.

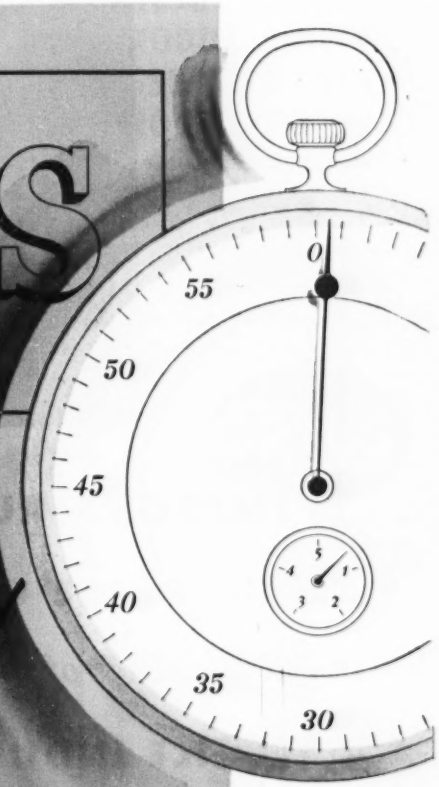
H. W. BUTTERWORTH & SONS CO.
Bethayres, Pennsylvania

1211 Johnston Bldg., Charlotte, North Carolina
187 Westminster St., Providence, Rhode Island

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing and Embossing
Pot Spinning Machines for Synthetic Fibers
Calender Rolls : : Tenter Chains

# BUTTERWORTH

# Nekal NS




**for**

*Split Second*

**Wetting**

**with Minimum Foaming**

You'll get peak efficiency when using NEKAL NS for wetting and rewetting all textiles. It works equally well in either cold or hot solutions and its high speed performance in low concentrations makes NEKAL NS very economical to use. We welcome your request for samples and application recommendations on NEKAL NS in your particular wetting or rewetting problem.

## ANTARA® CHEMICALS

*(Division of General Dyestuff Corporation)*

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BRANCHES: Boston • Providence • Philadelphia • Charlotte, N. C. • Chicago • Portland, Ore. • San Francisco

**IN CANADA:** Chemical Developments of Canada Limited, Montreal

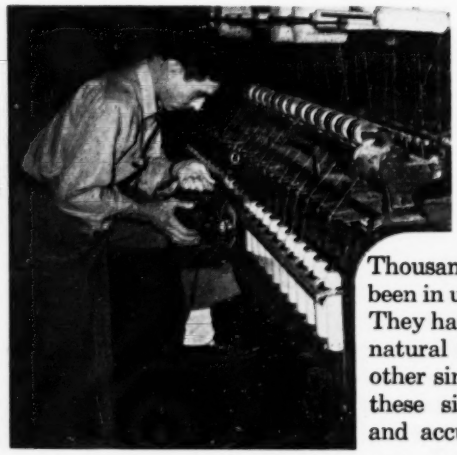


Photo of Type 631-B Strobotac in use at Duplan Corporation, Burnsville, N. C.

Thousands of General Radio Stroboscopes have been in use in the textile industry for many years. They have proven invaluable in the production of natural fiber and synthetic yarn materials. No other single device has aided production as have these simple-to-operate, relatively inexpensive and accurate electronic instruments.

Among some of the hundreds of uses for G-R Stroboscopes in textiles are:

**In the Spinning Room:** the STROBOTAC®, with no mechanical or electrical connection to spindles or any shafting, measures or checks: spindle speeds; belt and tape slippage and spindle wear; slap of the balloon; misaligned and worn spindles; crooked, worn or unbalanced bobbins; sluffing and other yarn defects.

**In Synthetics:** in addition to the above, down-twisters, up-twisters, quillers and pot spinners can be observed for correct speed, alignment and balance.

**In the Weave Room:** the STROBOLUME permits these important motions to be seen: entrance of shuttle into shed; flight of shuttle; boxing of shuttle; flexing of shuttle check strap; behavior of filling bobbin; looping of filling as shuttle enters shed; contact of filling feeler and bobbin; transfer of bobbins; action of cutters; clearance of protection; raising of parallel shoe from parallel; behavior of beat-up; flexing of picker sticks; checking of mesh gears.

The STROBOTAC® and the STROBOLUME can help YOU as they have thouands of others.

**Write for "EYES FOR INDUSTRY" for Complete Information**

## *To* IMPROVE QUALITY *and* INCREASE OUTPUT *in All Branches of the* TEXTILE INDUSTRY

**The Type 631-B STROBOTAC** *is a small, light weight, portable stroboscopic tachometer. Its direct-reading range is from 600 to 14,400 rpm. It can be used for s-l-o-w motion observations over the same range. By use of 'multiple images' the range is extended from 200 to 100,000 rpm.* **Price: $140.00**

**The Type 631-BL STROBOTAC** *is identical with the Type 631-B except that an additional low range down to 60 rpm is supplied for observations on very slow-moving equipment.* **Price: $170.00**

**The Type 1532-B STROBOLUME** *is a high-intensity light source supplying brilliant stroboscopic flashes some 2,000 times as strong as those from the Type 631-B Strobotac. It operates at speeds below 1,200 flashes per minute, and with reduced intensity up to 3,000. The STROBOLUME can be operated directly from the Type 631-BL Strobotac or from any make-or-break contact circuit. The Type 1535-A Magnetic Contactor is especially designed for operating the STROBOLUME from any rotating shaft. A pushbutton and connecting cord are supplied with the STROBOLUME for single-flash uses.* **Price: $265.00**

GR®

**GENERAL RADIO Company**

275 Massachusetts Avenue, Cambridge 39, Massachusetts

*90 West St., NEW YORK 6 · 920 S. Michigan Ave., CHICAGO 5 · 1000 N. Seward St., LOS ANGELES 38*

# DON'T ALWAYS

## BLAME THE DYER!

Who gets the blame when dyeings are cloudy, streaked, or badly crocked?

You know the answer. Too often the dyer or the dyestuff manufacturer is unjustly blamed. The trouble in many cases results from having to handle fibers, yarns or fabrics which have not been thoroughly cleaned *before they reach the dyer.*

The most skilled dyer — using the best dyestuffs available — can run into plenty of trouble if the fibers or fabrics which come to him do not have a "clean bottom." That's why good detergency is so vitally important in processing saleable fabrics.

## DETERGENTS ARE OUR BUSINESS

Procter & Gamble has been making detergents for 115 years. Equipped with some of the finest research facilities in the industry, this company has won a reputation for producing a wide variety of constantly improved and related products for textile processing. In the Procter & Gamble line are efficient soaps, synthetic detergents, surfactants, wetting and dispersing agents, dyeing assistants, wool oils and finishing agents. Coupled with these top-performance products are the skilled technical advice and help available from our Textile Research Department on problems related to the thorough cleaning and finishing of textile fibers.

We welcome the opportunity to show how Procter & Gamble textile specialties can help assure smoother production in your mill — and perhaps save you considerable re-processing. If you have detergent or finishing problems, let's talk them over.

## THESE QUALITY PRODUCTS HELP ASSURE SMOOTH PROCESSING

Olate

**Olate** — *the all-purpose, low-titer textile soap*

ORVUS

**Orvus products** — *synthetic organic surfactants with superior detergent, wetting, penetrating and emulsifying properties*

PROCTER & GAMBLE PROXOL

Proxol·T

**Proxol and Proxol-T** — *time-tested, multi-quality Wool Oils*

AMBER SOAP FLAKES

**Amber** — *the standard of 42 titer soaps*

NON-PAREIL FLAKES

**Nonpareil** — *a superior medium titer, all-purpose soap*

Profine

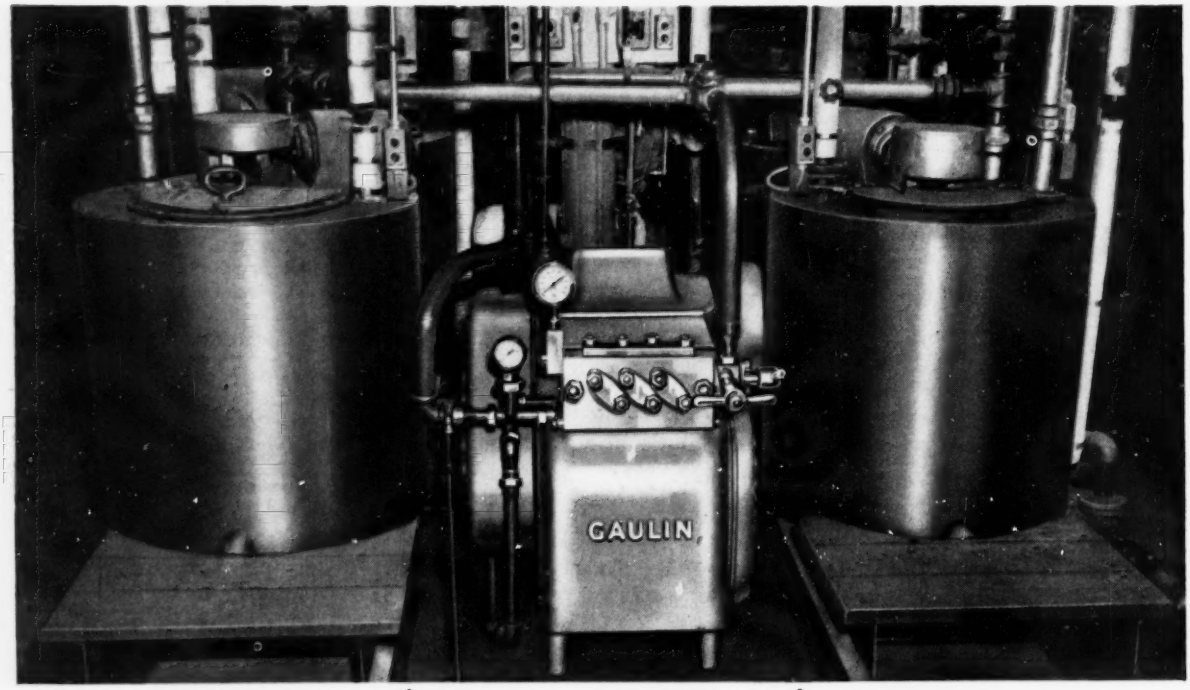
**Profine** — *an efficient finishing agent in white flake form.*

Procter & Gamble
CINCINNATI, OHIO

**PROGRESS THROUGH CONSTANTLY TRYING TO PLEASE**

# HOW BACHMAN-UXBRIDGE SAVES ON GAULIN-HOMOGENIZED SIZE

## ...For Single-Ply Worsted, Nylon Worsted, Rayon Worsted




### Cooks Size Here

Instead of bringing the starch mixture to a boil and holding for 30 minutes to an hour and a half, it is now only necessary to heat the starch to the swelling point—which is reached in just 10 to 15 minutes. But most important, with a Gaulin Homogenizer a lower-priced pearl starch does the job.

### Homogenizes Here

By converting starch mechanically instead of thermally, a Gaulin Homogenizer produces a finer, smoother size. Viscosity is accurately set and controlled. Result—Bachman-Uxbridge claims less shedding at the loom and slasher, higher weaving efficiencies, and a more uniform finished product than ever before.

### Stores It Here

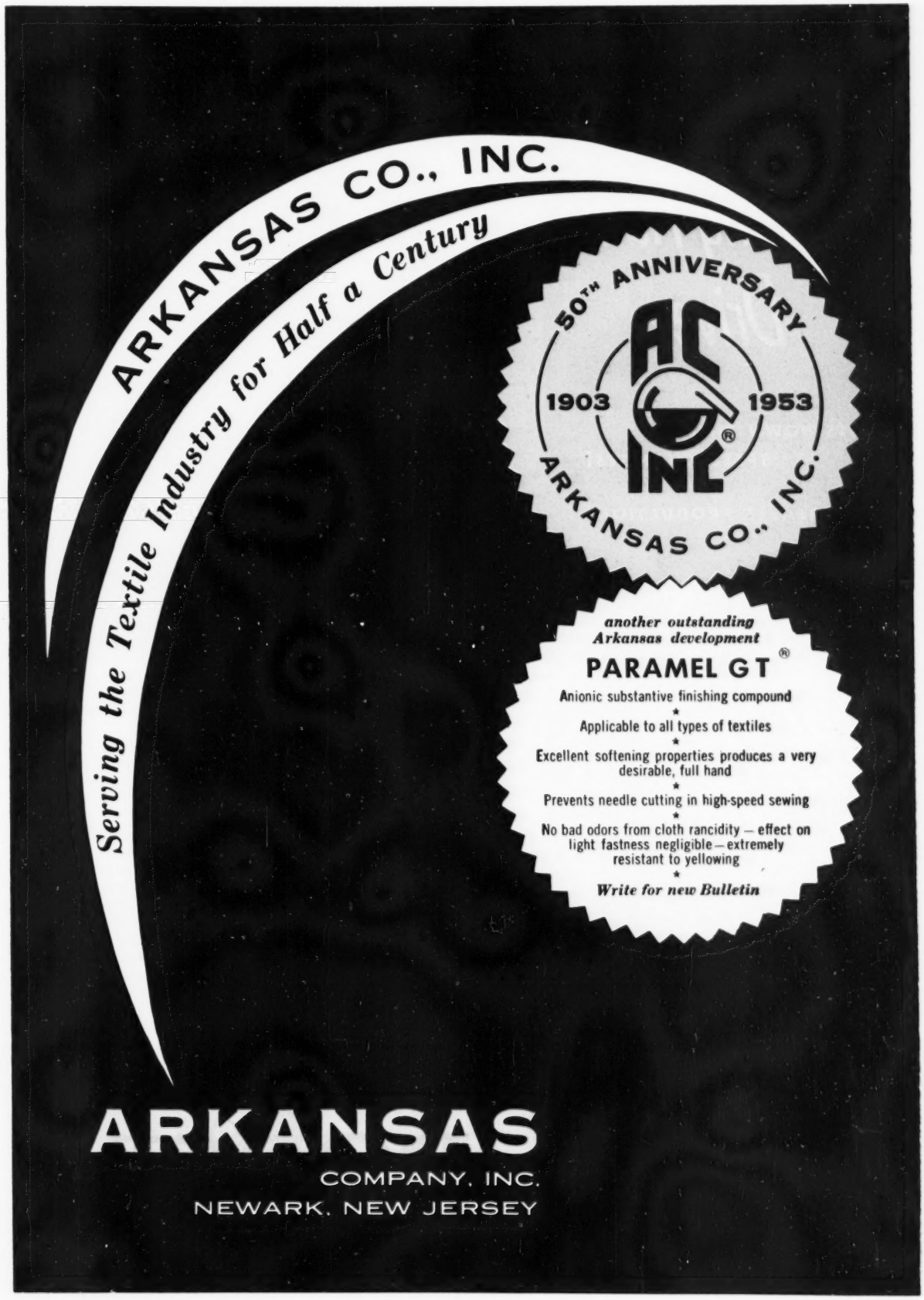
Gaulin makes sizes so stable they can be easily stored for several days. Their resistance to separation saves waste when creeling the slasher, and on weekend or other shutdowns. Just one more reason why most Gaulin installations pay for themselves in less than a year. Write for the complete story on Gaulin *guaranteed* performance, today.

### Spun Rayon-Cotton

Gaulin Homogenizers are also used in preparing better sizes for Spun Rayon and Cottons. Mills all over the country now find them a more efficient, economical way to higher quality production.

**Gaulin** TRADE MARK

**Manton-Gaulin**
**MANUFACTURING COMPANY, INC.**
**68 GARDEN STREET, EVERETT 49, MASS.**
*World's largest manufacturer of Homogenizers, Triplex Stainless-Steel High Pressure Pumps, and Colloid Mills*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Serving the Textile Industry for Half a Century
50TH ANNIVERSARY
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ARKANSAS CO., INC.
another outstanding
Arkansas development
PARAMEL GT ®
Anionic substantive finishing compound
Applicable to all types of textiles
Excellent softening properties produces a very desirable, full hand
Prevents needle cutting in high-speed sewing
No bad odors from cloth rancidity – effect on light fastness negligible – extremely resistant to yellowing
Write for new Bulletin
ARKANSAS
COMPANY, INC.
NEWARK, NEW JERSEY

# NEW Spinning Frame Drive

CUTS DOWN-TIME ON SPEED CHANGES!

INCREASES PRODUCTION!

TAPER-LOCK VARIABLE PITCH SHEAVE

TAPER-LOCK COMPANION SHEAVE

SLIDE MOTOR BASE

DODGE SEALED-LIFE BELTS

ALL of the exclusive advantages of the famous Dodge Taper-Lock design are incorporated in this new Spinning Frame Drive. Both sheaves—the variable pitch and the companion—employ the Taper-Lock principle.

The variable sheave locks as a unit when tightened on the shaft. It locks and unlocks easily, quickly, with the turn of a screw.

One-point adjustment establishes accurate pitch diameter; cylinder speeds are held within extremely close limits. Changes are made quickly, production is kept at maximum. In rare cases where a change in the companion sheave is required, the Taper-Lock principle makes the change quick and easy.

The slide motor base permits quick changes in center distances to preserve proper belt tension as the variable sheave is adjusted for changes in speed. Latest design Sealed-Life Belts have deep sidewalls and lateral rigidity for efficient operation.

All components are engineered to operate in perfect harmony. For details write for Bulletin A-618.

**DODGE MANUFACTURING CORPORATION**
**3500 UNION STREET, MISHAWAKA, INDIANA**

**DODGE**
*of Mishawaka, Ind.*

Call the Transmissioneer, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new cost-saving methods. Look for his name under "Power Transmission Equipment" in your classified phone book.

# NOW after years of research, Star Woolen Co. announces

## GARNETTED NYLON for the COTTON SPINNING SYSTEM

**SPIN IT for** longer-lasting fabrics

**specifically for nylon in** **DENIMS**

Blending of nylon garnetts and cotton in the production of denims greatly increases strength and abrasion resistance, and makes for longer-lasting fabrics. Star Woolen's nylon garnetts have already been proven in production — this sensational new product will make textile history this year!

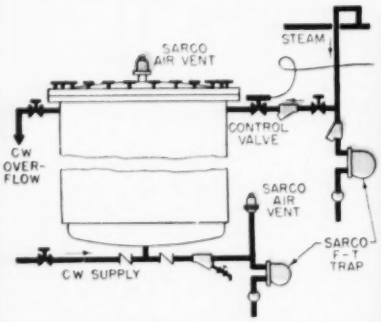
***But please note:*** **our production of nylon garnetts for cotton spinning is limited.** ***We suggest that you write, wire or phone immediately for full information.***

**STAR WOOLEN CO.**

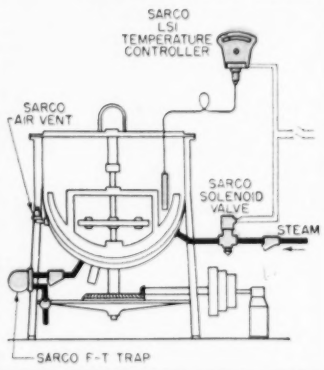
*World's Largest Producers of Nylon & Other Synthetic Garnetts*

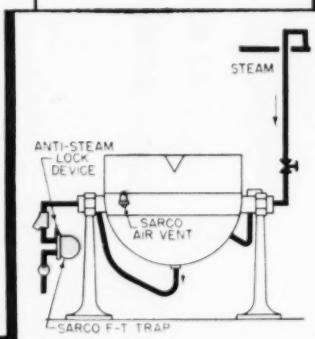
**Cohoes, N. Y.**

**1** CANNING RETORT — down flow steam improves air venting. Draining and air venting automatically with Sarco equipment.




**3** JACKETED MIXER — the Sarco Automatic System quickly removes air and condensate, holds the temperature constant.

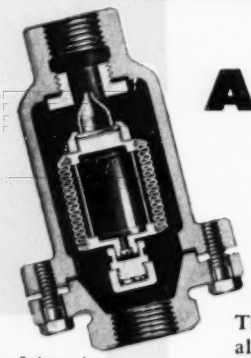



QUICK BOILING TILTING KETTLE — rapid air venting and draining with Sarco controls.

**2**

# AIR VENTING

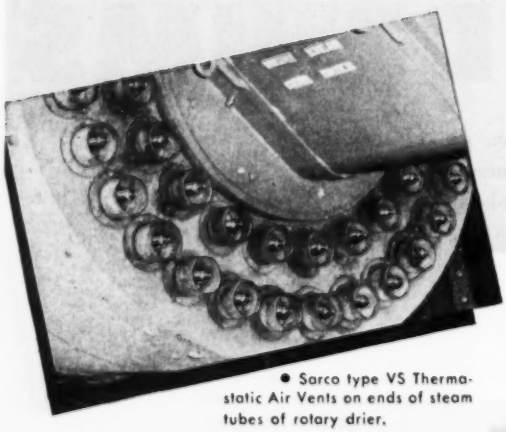


• Sarco Balanced Pressure Thermostatic Air Vent, type VS, sizes ⅜" to 1¼", pressures to 225 psi. Very large capacities.

• AIR in steam spaces cannot supply useful heat. The temperature of a mixture of air and steam is always lower than that of pure steam at the same pressure. So air in steam has the same effect as reducing the operating steam pressure.

Air and non-condensable gases in the steam space form an objectionable insulating film on the condensing surfaces. Such a film, only 1/1000" thick, can reduce the heat transfer rate by as much as 11%.

Quick and complete removal of air from steam heated equipment not only shortens warming-up time, it also improves surface temperatures, thus increasing production and reducing fuel consumption at the same time.



• Sarco type VS Thermostatic Air Vents on ends of steam tubes of rotary drier.

are expressly designed to rid all types of process equipment of air and non-condensables and keep them that way.

When starting up, the large discharge valve is wide open, providing rapid and complete discharge of initial air. Air which collects during operation is discharged promptly, regardless of steam pressure or temperature.

For full information on where and how to apply air vents to speed production and save fuel, write for Bulletin 275-4.

**SARCO COMPANY, INC.**
Empire State Bldg., New York 1, N. Y.
REPRESENTED IN PRINCIPAL CITIES
Sarco Canada Ltd., Toronto 8, Ont.

**SARCO saves steam**
improves product quality and output

411

# L. F. Dommerich & Co., Inc.

*Executive and General Offices*

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NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

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*Inquiries as to our services solicited*

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# 47

*Years*

★

AS
CONTRACTING ELECTRICAL ENGINEERS
TO THE TEXTILE INDUSTRY

**J. M. CLAYTON COMPANY**
*Contracting Electrical Engineers*
**ATLANTA, GEORGIA**

Whether you're dyeing fabrics for suits

or draperies, for dresses or upholsteries,

you can use ALTCO on all rayons, mixed fabrics

and cottons with certainty because

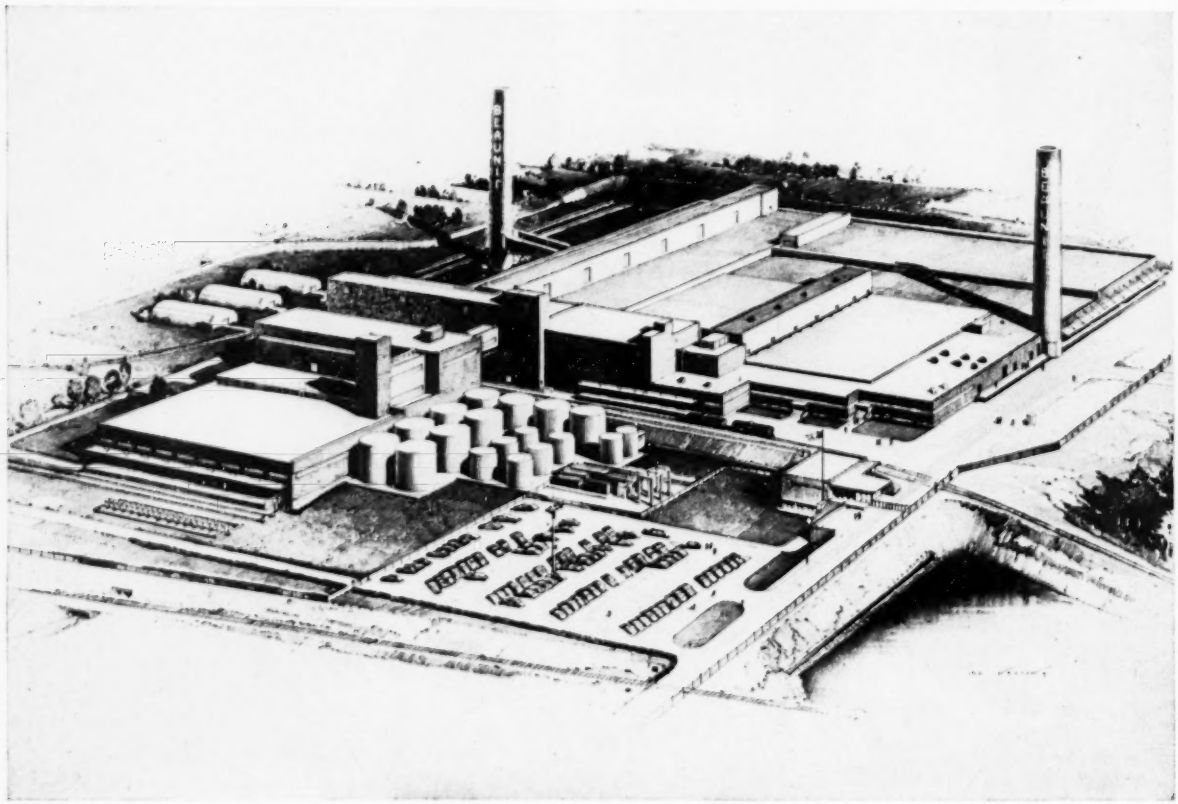
# Superlitefast® direct dyes

**are fastest to light, washing and resin finishes**

ALTHOUSE
Chemical Company, Inc.
READING, PENNSYLVANIA

pace-setter in precision dye-making

# A Lockwood Greene Project



Beaunit Mills, Inc., Coosa Pines, Alabama.

## A Record of Service in Silk, Rayon and Synthetics

At the Beaunit Mills shown above, Unit #1 has a capacity of 10,000,000 lbs. per year of viscose filament yarn. Unit #2 has a capacity of 36,000,000 lbs. per year of viscose tire cord.

as measured by:

| | |
|---|---|
| New Plants | 29 |
| Major Additions | 24 |
| Minor Additions, Reports, Appraisals | 146 |
| Total Engagements | 199 |
| Cost New Plants and Major Additions | $165,000,000 |

**LOCKWOOD GREENE**

ENGINEERS - ARCHITECTS

Boston 9, Mass. 40 Central Street

New York 20, N. Y. 10 Rockefeller Plaza

Spartanburg, S. C. Montgomery Bldg.

215 St. James Street, West, Room 601, Montreal, Canada

# XYNO FINISH 9909

For urea and melamine-treated fabrics, a superior softness of finish is now obtainable with XYNO FINISH 9909. With this unusual product, crush resistant finishes may now be formulated to improve greatly the sewability and overcome the embrittlement of resin processed fabric.

Compatible with resins and with both anionic and cationic finishing agents, highly resistant to yellowing at higher temperatures and without effect on the curing of resins, XYNO FINISH 9909 may be applied with equal value on the box or jig in dyeing or on quetsch or pad during finishing.

The light fastness of your direct colors will be unaffected by the use of this softener.

We'll be happy to provide you with a sample and technical data upon request so that you may be convinced at first hand.

ONYX

**OIL & CHEMICAL COMPANY**

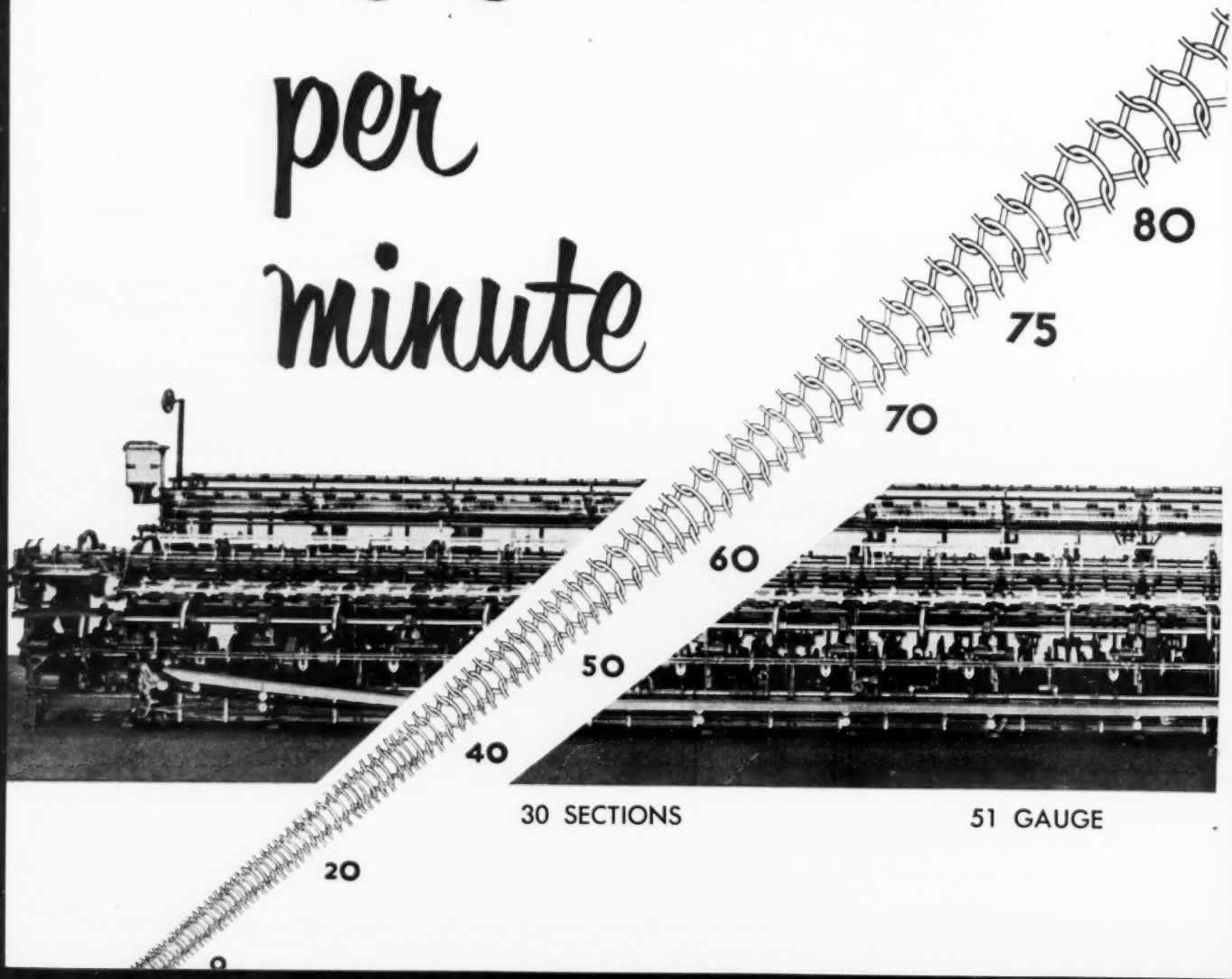
TEXTILE DIVISION

**WARREN & MORRIS STS., JERSEY CITY 2, N. J.**

CHICAGO • BOSTON • CHARLOTTE • ATLANTA

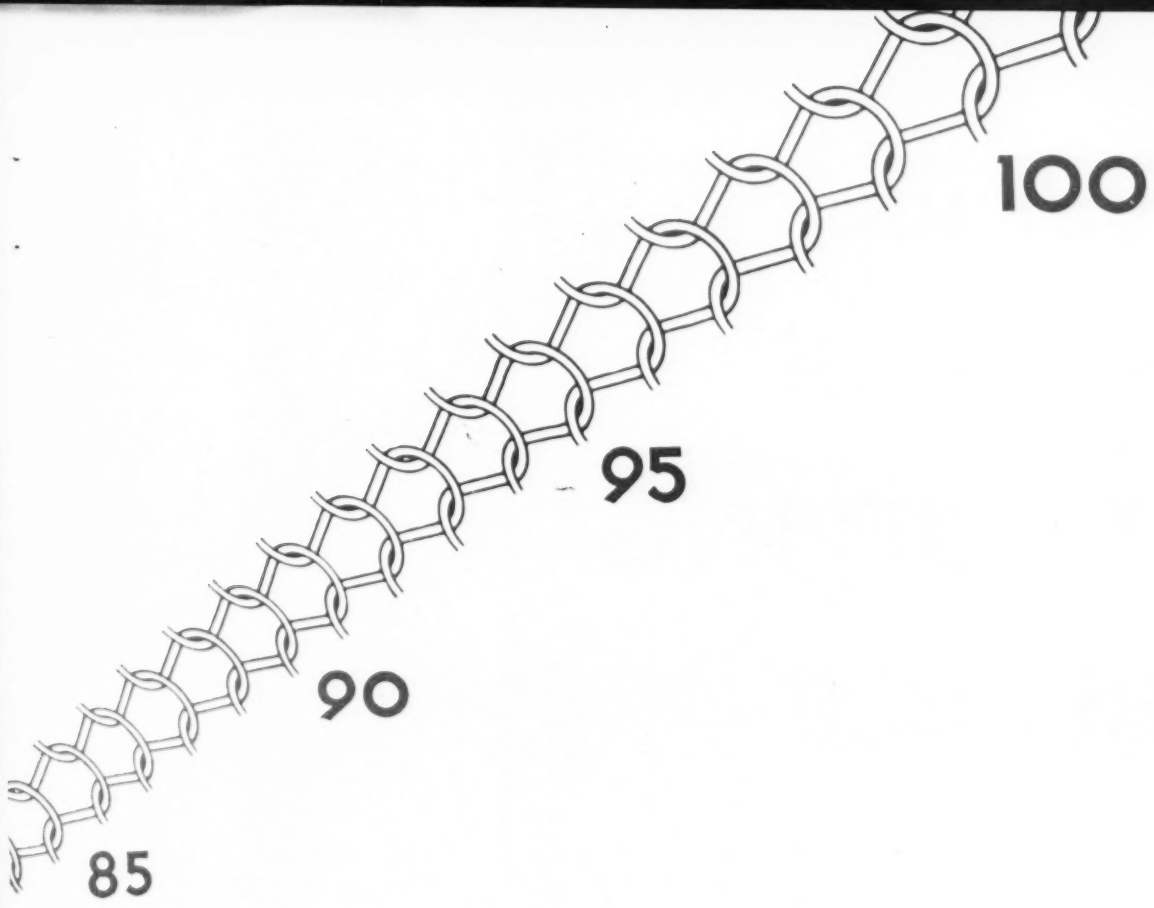
In Canada: ONYX Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que. For Export: ONYX International, Jersey City 2, N. J.

# It knits 100 courses per minute



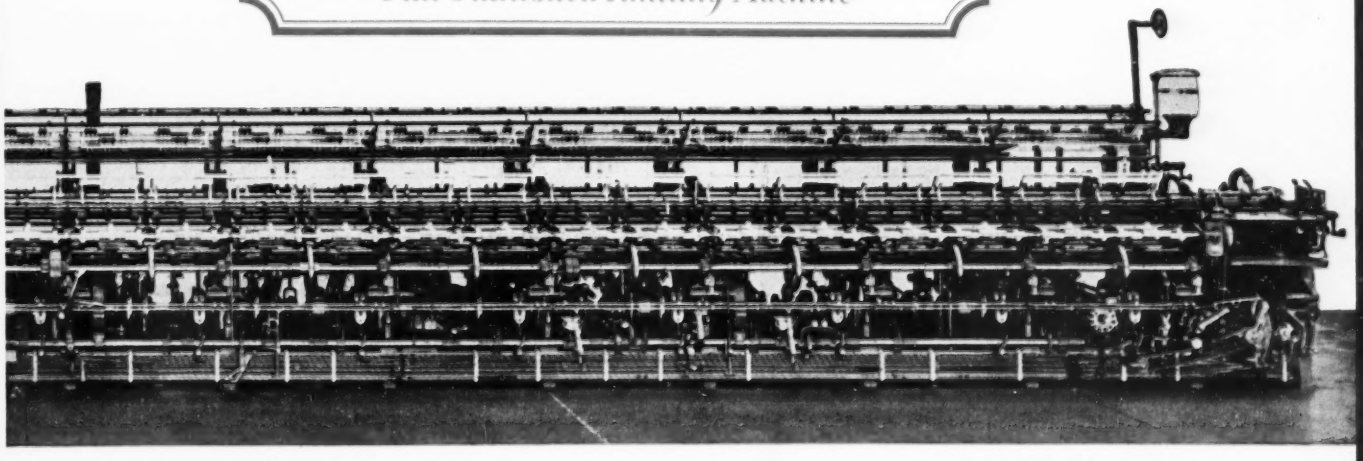

30 SECTIONS

51 GAUGE




# The "READING 100"

*Full-Fashioned Knitting Machine*

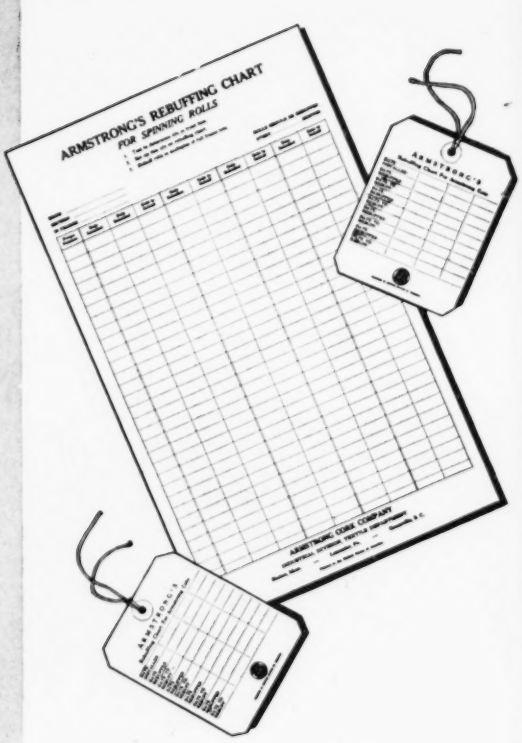


60 GAUGE

66 GAUGE

**TEXTILE MACHINE WORKS**
**READING, PENNA., U. S. A.**

# To set up a practical COT BUFFING SCHEDULE




## *Call your Armstrong man . . .* he can help

**YOU SAVE TIME AND TROUBLE** when you call in your Armstrong man. His years of textile experience can help you solve your roll covering problems. Call him in anytime he can be of service to you.

A good, workable re-buffing plan for your roll covers can benefit you in several ways.

First, it helps you spin more uniform yarn because your cots always are in good running condition. Second, it provides maximum life from your roll covers because they are buffed no more often than necessary. Third, a systematic buffing schedule helps insure more efficient roll shop operation.

A good way to get started on a streamlined re-buffing program is to call in your Armstrong man. He can help you organize things to provide a uniform flow of work in and out of your roll shop. And when the program is set up, he'll provide you with master buffing charts and frame tags that make it easy to stay on the schedule you adopt.

This is just one of many ways your Armstrong man can help you get the most out of your cots. Call him in whenever you have a roll covering problem. You'll find his specialized training and experience mean

**ARMSTRONG'S**

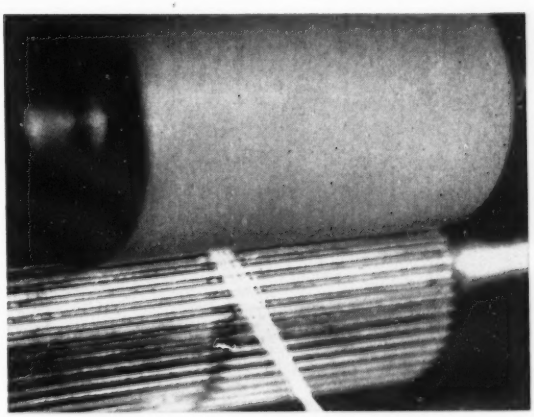
# you get better running work, maximum cot life

sound answers to almost any roll covering question that might come up in your particular operation.

Your Armstrong representative has another big advantage. From his complete line of Armstrong's Roll Covers, he can supply the right cot for every type of frame and fiber.

He has cork if cork is needed. And he has a wide variety of long-wearing, lap-resistant Accotex® Cots, available in straight rubber and in cork-and-rubber combinations. Each Accotex formulation is made in varying degrees of firmness to give you the exact cushion you need.

Whenever you have a problem concerning roll covers, be sure to call in your Armstrong man. If yours is a rush call, he usually can be at your mill in 24 hours or less. To get Accotex Cots for testing, just ask him or write to Armstrong Cork Company, Textile Products Dept., 3604 Arch St., Lancaster, Pa. All Accotex products are available for export.



**Lap-resistant Accotex Cots last up to 6 years.** Only a minimum of re-buffing is needed to keep Accotex Covers in condition to spin quality yarn for as long as six years. In addition, they practically eliminate lapping. Every Accotex Cot contains certain electrolytes that remove the basic cause of lapping—the attraction between electrical charges on both cot and fiber. By neutralizing the charges in the cot, these electrolytes let broken ends run free long enough to drop down onto the scavenger roll and thus prevent lap ups.

# ACCOTEX COTS

# Now CELAPERM*

CELANESE COLOR-PIGMENTED ACETATE YARN

## makes fabric styling easier... mill operation more efficient

For Celaperm color cards and information about colors, deniers, packages and delivery schedules, see your Celanese representative or contact any of the following branch offices:

| | |
|---|---|
| New York 16, N.Y. | 180 Madison Avenue |
| Boston 10, Mass. | 140 Federal Street, Room 1602 |
| Camden, N.J. | 300 Broadway |
| Charlotte 2, N.C. | 1603 Liberty Life Building |

Celanese Corporation of America, 180 Madison Avenue, New York 16, N.Y.

Celaperm—the new and better Celanese* solution-dyed yarn—comes in a range of colors with an all-around fastness unexcelled . . . together with all the other qualities inherent in acetate. And with Celaperm you have this assurance: no matter how large the order you place at one time, you enjoy color fidelity throughout the lot.

Celaperm also offers many other mill efficiencies and styling opportunities. Specifically, to name a few:

## PLAIN SHADES:

a wide range of plain and iridescent effects can be achieved with a single shade of Celaperm or with various combinations of Celaperm colors, used either end-and-end, or one shade in the warp, the other in the filling.

## CELAPERM with WHITE and/or BLACK YARNS:

Many interesting patterns can be achieved with color fastness by combining Celaperm with black or white yarns, at the same time completely by-passing otherwise difficult dyeing operations. Since Celaperm is available on section beams a very efficient production schedule is possible.

## THREE-COLOR EFFECTS

Celaperm can be combined, particularly as decoration, with two other fibers, that can be cross-dyed, achieving a new three-color effect.

Furthermore—and of far-reaching importance—it is possible with Celaperm to develop loom-finished fabrics. Celanese is ready to work with you to explore this new era in fabric.

Celanese* CELAPERM*

THE PERFECTED COLOR-PIGMENTED ACETATE YARN

*Reg. U. S. Pat. Off.

# MOVE **fast** AGAINST **fire**

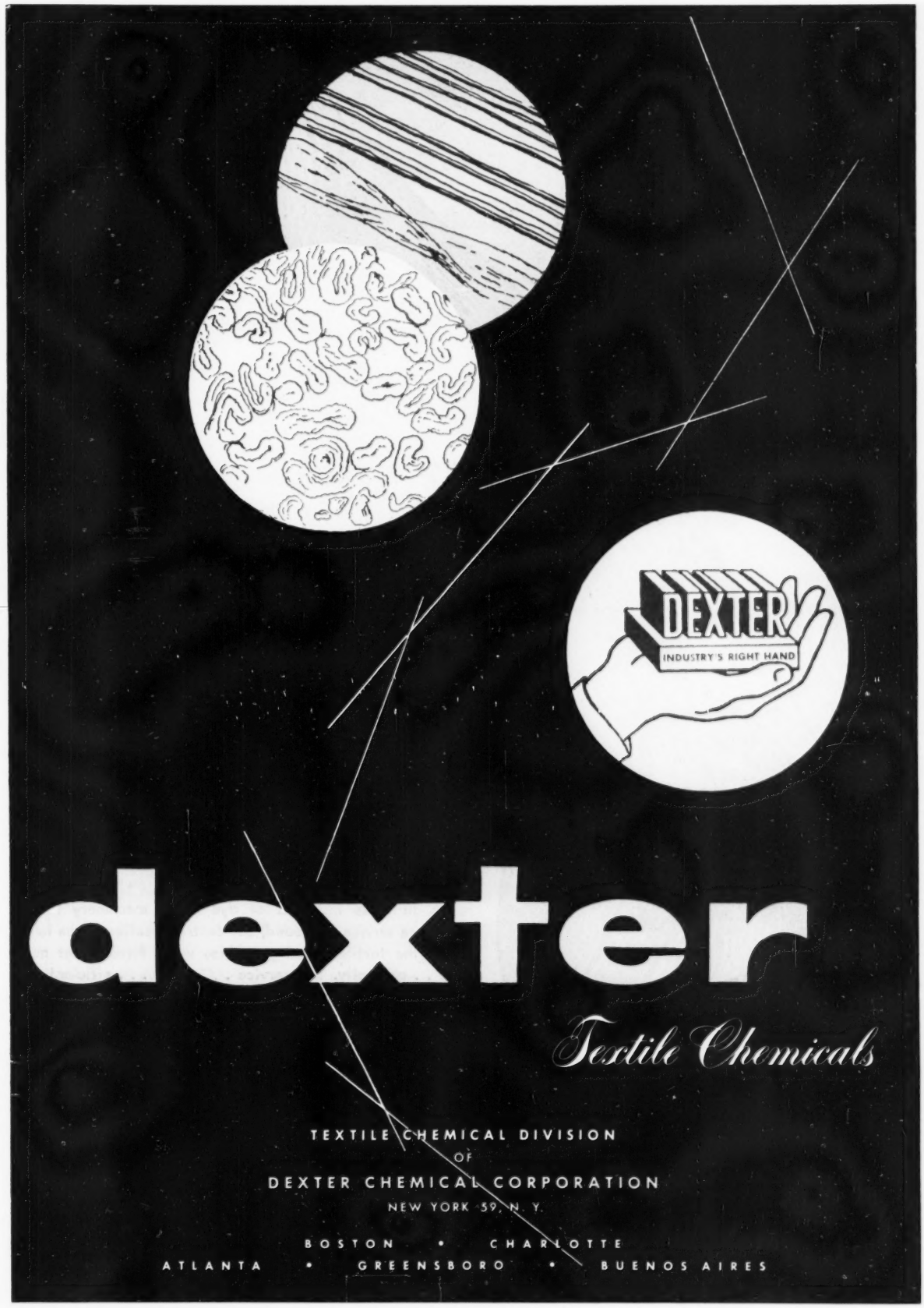
## WITH A KIDDE DRY CHEMICAL EXTINGUISHER

Just pick it up, point the horn and pull the trigger. That's all it takes to put out a fire with a handy Kidde Dry Chemical Extinguisher. Pound for pound, there's no faster or more effective portable on the market. A single trigger-pull gives you instant action, while Kidde's patented Diffuser Horn spreads an enormous cloud of fire-smothering dry chemical. Anyone can beat down fire in a matter of seconds, standing behind the "cool" protective wall of dry chemical that's set up. Kidde Dry Chemical portables come in 5, 20 and 30 pounds. Better get one today.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc. and its associated companies.

**Kidde**

**Walter Kidde & Company, Inc.,**
**490 Main Street, Belleville 9, N. J.**
**Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.**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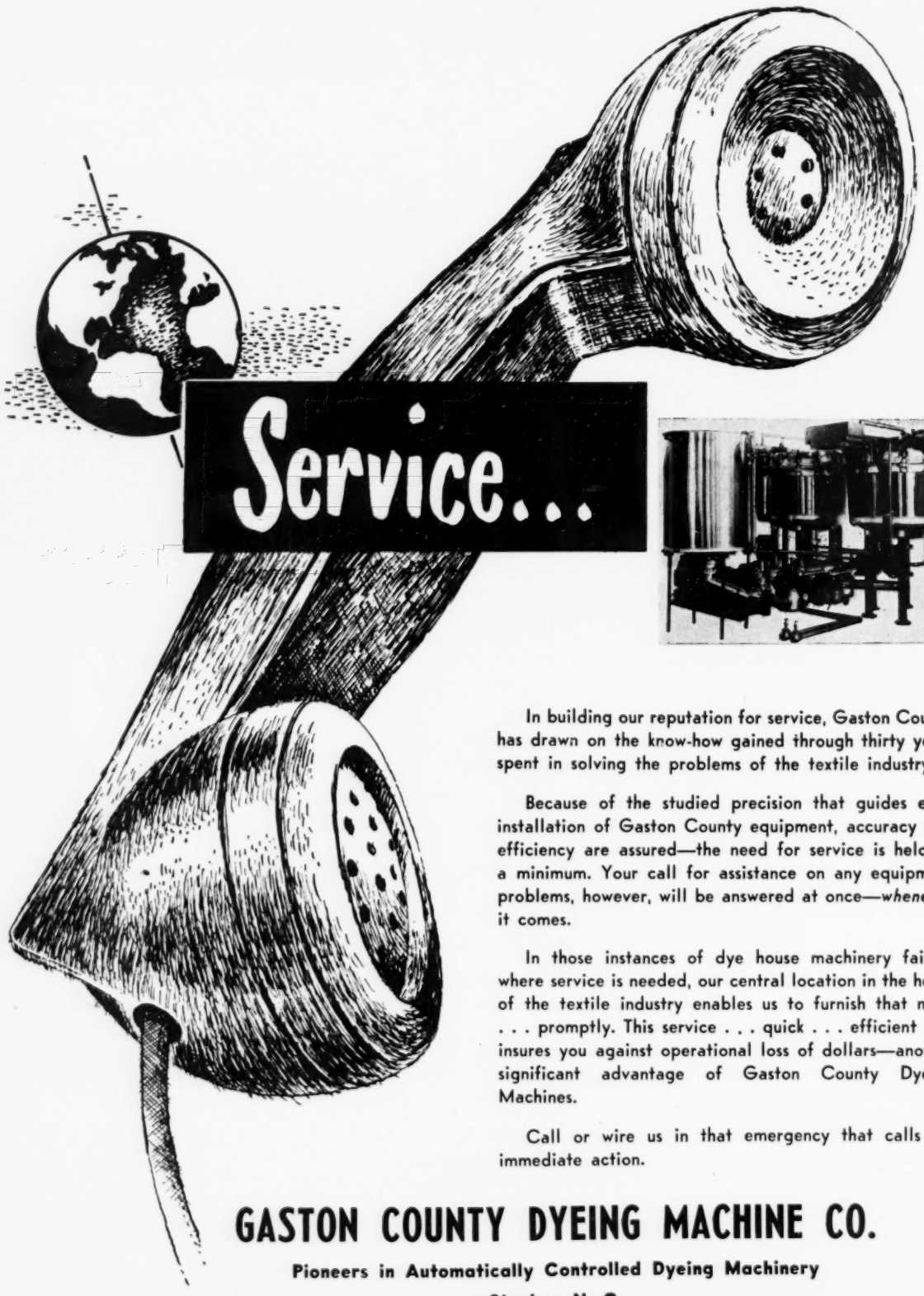


In building our reputation for service, Gaston County has drawn on the know-how gained through thirty years spent in solving the problems of the textile industry.

Because of the studied precision that guides each installation of Gaston County equipment, accuracy and efficiency are assured—the need for service is held to a minimum. Your call for assistance on any equipment problems, however, will be answered at once—*whenever* it comes.

In those instances of dye house machinery failure where service is needed, our central location in the heart of the textile industry enables us to furnish that need . . . promptly. This service . . . quick . . . efficient . . . insures you against operational loss of dollars—another significant advantage of Gaston County Dyeing Machines.

Call or wire us in that emergency that calls for immediate action.

## GASTON COUNTY DYEING MACHINE CO.

**Pioneers in Automatically Controlled Dyeing Machinery**

**Stanley, N. C.**

Albert R. Breen
80 East Jackson Blvd.
Chicago, Ill.

Gaston Co. Dyeing Machine Co.
Terminal Building, 68 Hudson St.
Hoboken, N. J., G. Linder, Mgr.

The Rudel Machinery Co., Ltd.
614 St. James St., W. Montreal
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# Bright, colorful tartans for blends of ORLON* and Wool

To get the tartan patterns in these colorful shirtings, Du Pont's technical-service experts went right to the manufacturer's mill and worked with him in developing his dyeing procedure.

Such cooperation enabled him to solve his dyeing problem by drawing on past experiences with similar fiber blends.

Call on Du Pont whenever you have a dyeing problem with any wool-synthetic blend. Our technical-service representatives will draw on Du Pont's unique experience as both a producer of dyes and creator of man-made fibers.

Du Pont's research is directed constantly toward improving dyes and dyeing methods. In the field of dyeing man-made fibers, many new developments are occurring. Keep in touch with us for the latest information. E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

**ORLON is Du Pont's trade-mark for its acrylic fiber.*

Du Pont Dyes

DU PONT

REG. U. S. PAT. OFF.

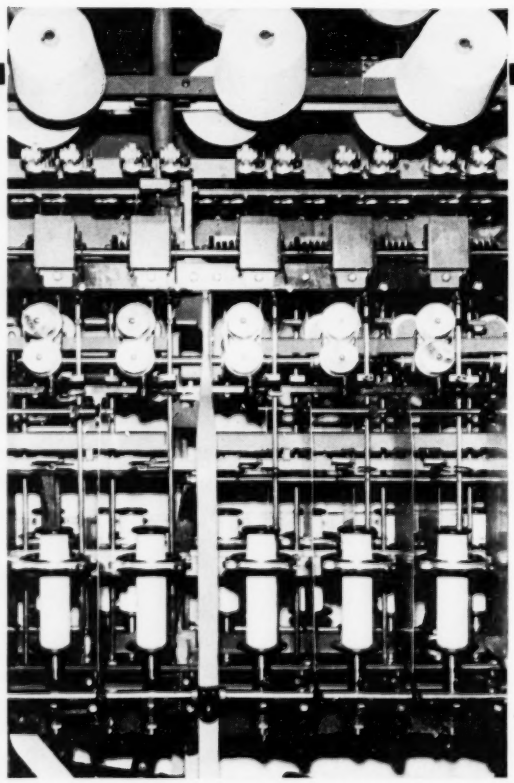
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

# SEE *FLETCHER* FOR *FLEXIBILITY*

How important is flexibility? Can it be measured? New and old yarns demand your throwing machines have versatility.

## Fletcher MASTER-DUPLEX DOUBLER-TWISTER

FILAMENT YARNS
STAPLE YARNS
RAYON - NYLON
COTTON - ORLON
DACRON - WORSTED
GLASS - ACETATE



**CREEL**
Built to your specifications

**TENSIONS**
For all type yarns

**STOP MOTION**
Single end drop wires
Plyed end drop wires

**FEED ROLLS**
Chrome Plated
Totally enclosed for cleanliness

**GUIDE EYES**
Travelling eye

**BOBBINS**
Non-sloughing—large capacity

**SEPARATORS**
Easily removed for cleaning

***See*** — *"TODAY'S MACHINE, BUILT FOR TOMORROW'S POSSIBILITIES."*
*at the Knitting Arts Exhibition—Booths 428-429-430*

# FLETCHER WORKS

225 GLENWOOD AVE. PHILADELPHIA 40, PA. ESTABLISHED - 1850

Southern Representative . . . F. W. WARRINGTON, Johnston Bldg., Charlotte, N. C.

When you need fast-wetting action, better detergency—specify

# LAUREL SYNTHETIC DETERGENTS

Hundreds of processors rely on Laurel Synthetic Detergents for speedier penetrating and scouring action on all fibers and fabrics. Unusual stability . . . acid, alkali or hard water. Laurel Synthetic Detergents are available in powder or liquids. Write today for samples and recommendations.

*Coning and Spinning Oils for all fibers including the latest synthetics. Anti-static features available. Penetrators. Finishes for specific applications.*

Laurel Brand

**Soaps, Oils, Finishes**

**LAUREL SOAP MANUFACTURING CO., INC.**

**Wm. H. Bertolet's Sons**

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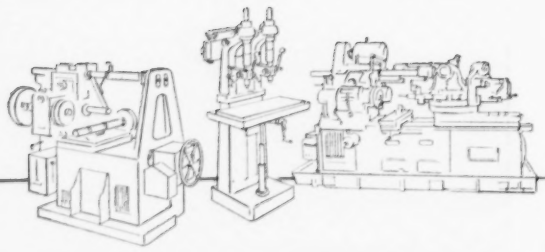
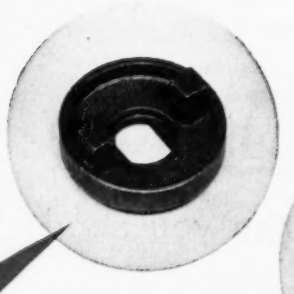
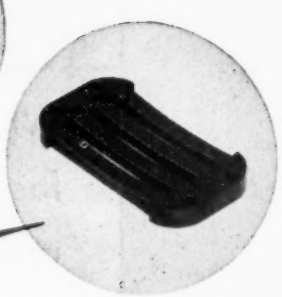


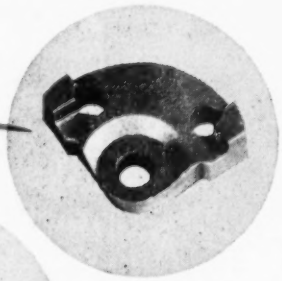
**YOU DON'T ALWAYS NEED MACHINE TOOLS FOR FINISHED MACHINE PARTS**

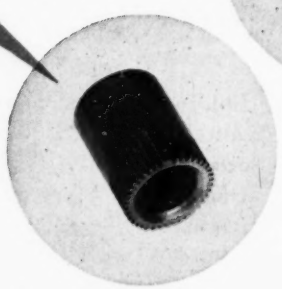
*Specify* **OILITE**

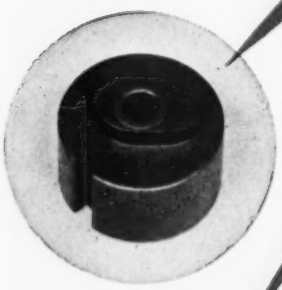
PRODUCTS OF SINTERED METALS

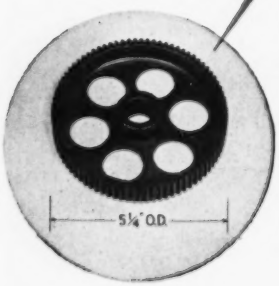













**With OILITE YOU:**

- Eliminate Machine Tools
- Eliminate Tooling Programs
- Conserve Skilled Man Hours
- Conserve Strategic Material
- Get Quick Delivery

**Other OILITE Advantages Include:**

- Over 20 Years Production Experience
- An Alternate Material
- Engineered Products
- No Machining
- Low Price
- Release Skilled Man Power For Other Jobs

*And*

**Field Engineers and Depots throughout U. S. and Canada**

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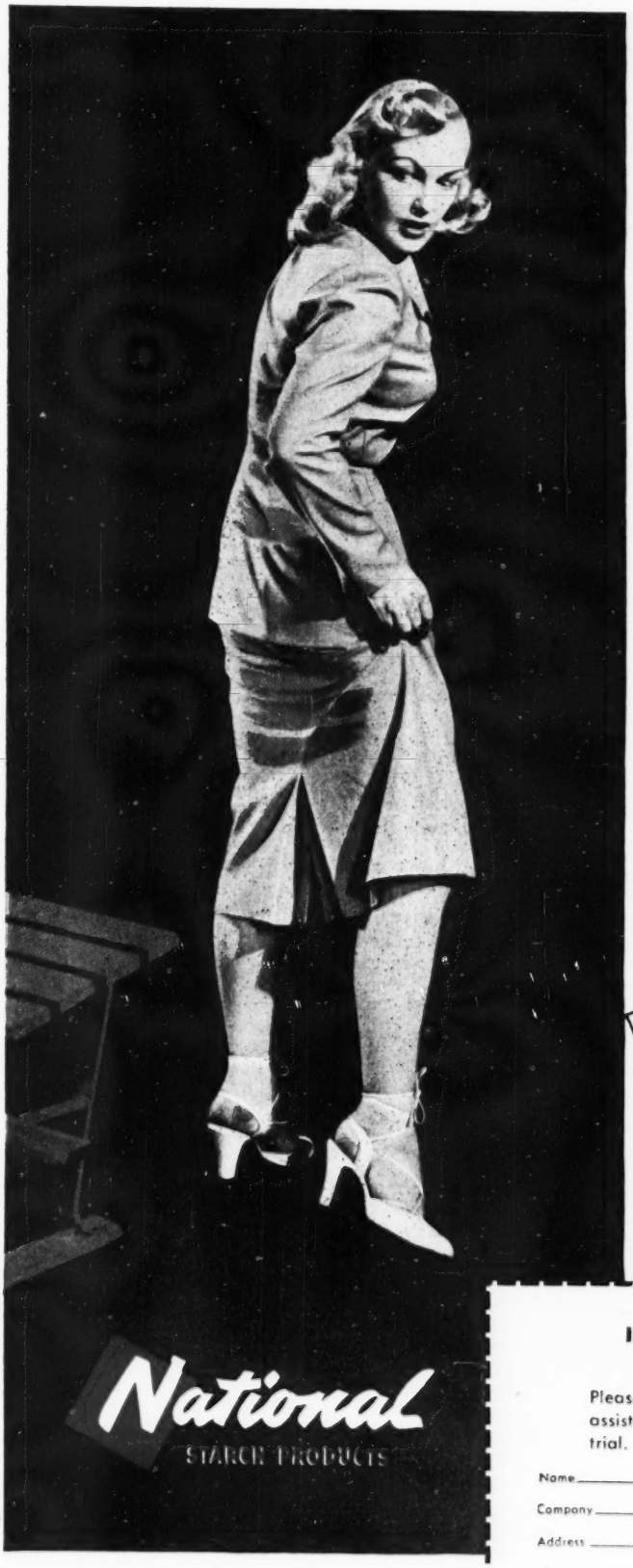
**AMPLEX MANUFACTURING COMPANY**

*Subsidiary of Chrysler Corporation*

**Detroit 31, Michigan**

*Oilite Products include: BEARINGS, Finished Machine Parts, Cored and Solid Bars, Permanent Filters, and Special Units.*




# Avoid Set-marks

**NU-FILM**, a new, non-congealing warp size, reduces formation of "set marks" . . . does away with "hard size" — drastically reduces rayon seconds.

**NU-FILM's** better running properties increase weaving efficiency. NU-FILM reduces loom shedding. Minimizes formation of slubs.

**NU-FILM** washes out of fabrics easily with soap and water. Permits low, comfortable humidity in your weave room.

Use it on spun rayon blends, cottons, and filament viscose yarns. For full information, clip and mail the coupon. **Offices:** 270 Madison Avenue, New York 16; Boston; Providence; Philadelphia; Atlanta; New Orleans; and other principal cities.

TI

**I'D LIKE TO AVOID SET MARKS** NU-FILM

Please send ☐ Technical data ☐ Sample ☐ Technical assistance. Have a representative arrange for a NU-FILM trial.

Name _____ Title _____

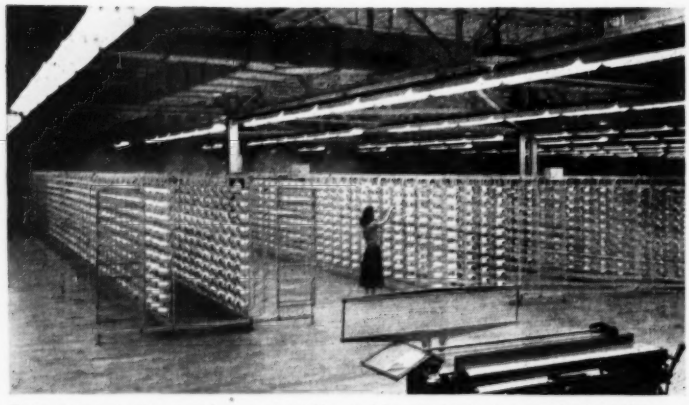
Company _____

Address _____

City _____ Zone _____ State _____



*For further information use Handy Return Card, Page 214*



Temperature in the warping room at Harris Plant is kept at a constant 80 degrees. Relative humidity between 50 and 60%. Note Carrier Air Conditioning ducts in ceiling, well above the light level.

# Know who's setting the style in synthetics?

If you want to see a synthetic fabric that styles well, take a look at woven filament rayon.

And if you want to see an efficient producer of this popular fabric, take a look at Greenwood Mills' Harris Plant.

This six million dollar weaving plant was built in 1950. And it's one of the outstanding operations of its type in the world.

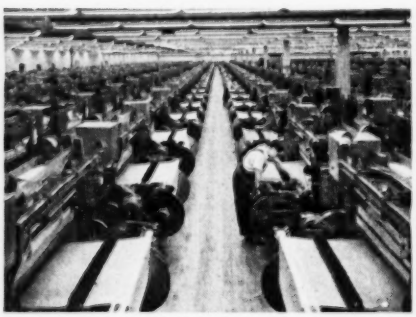
Ask them why, and they'll give a lot of credit to their *complete* air conditioning system — a Carrier job with refrigeration. They'll tell you only air conditioning with refrigeration gives them the accurate control of temperature and humidity they need to keep high-speed looms performing properly.

They'll tell you, too, that they picked Carrier because nobody else could match Carrier's experience and knowledge in the very special business of air conditioning a textile mill.

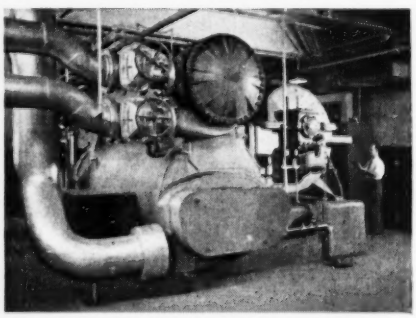
Add Carrier Refrigeration to your evaporative cooling system and watch *your* plant efficiencies climb. Write for informative Textile Catalog. Carrier Corporation, Syracuse, New York — *for 50 years . . . the people who know air conditioning best.*

Carrier

AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



Weave room at Harris Plant is kept at 65 to 75% relative humidity, but temperature is held *exactly* at 80 degrees with Carrier Refrigeration. Relative humidity varies with the fibers being run.



This is the source of refrigeration for the air conditioning at Harris Plant . . . a Carrier Centrifugal Refrigerating Machine, with a set of controls that make its operation almost automatic.

# NOW! A broader range of *Non-Congealing* warp sizes for spun rayon and blends

**STA-GEL N.C. definitely improves loom efficiency!**

New and Improved STA-GEL N.C. is made in a range of fluidities to meet specific concentration needs for the particular blend of yarn being sized.

STA-GEL gives you these important advantages:

- Smoother, Tougher Size
- Reduced Shedding
- Improved Loom Efficiency
- Easier Desizing
- More Strength and Binding Power
- Reduced Cost

Join the many important mills now using STA-GEL. Make your difficult constructions easier to weave with Staley's new, better sizing!

**Investigate STA-GEL!** Write today for all the facts about this superior sizing.

# STA·GEL® N.C.

Staley's new high efficiency spun rayon size

**A. E. Staley Mfg. Co., Decatur, Illinois**

PRODUCTS FROM CORN
Staley's

# ...with TYCOL lubricants on hand!

**Take textile machinery, for example.** There's a Tycol lubricant for any application you name: For instance, what about high speed spindles? . . . Tycol Alweave oils reduce thread breakage, hold spindle drag and bolster losses to a minimum. Loom gears? . . . Tycol Amortac oils have the necessary "stringiness" to keep them from dripping from exposed gears. Top rolls? . . . Use Tycol Akup or Ambrokup grease. You always get top performance with Tycol lubricants. Why? . . . Because each Tycol grease and oil is manufactured from high quality base stocks and *tailored* for a specific application. Get the full story of the entire Tycol line from your local Tide Water Associated office today!

***Over 300 Tycol industrial lubricants are at your disposal . . . engineered to fit the job!***

**REFINERS AND MARKETERS OF VEEDOL . . . THE WORLD'S MOST FAMOUS MOTOR OIL**

TYCOL
INDUSTRIAL LUBRICANTS

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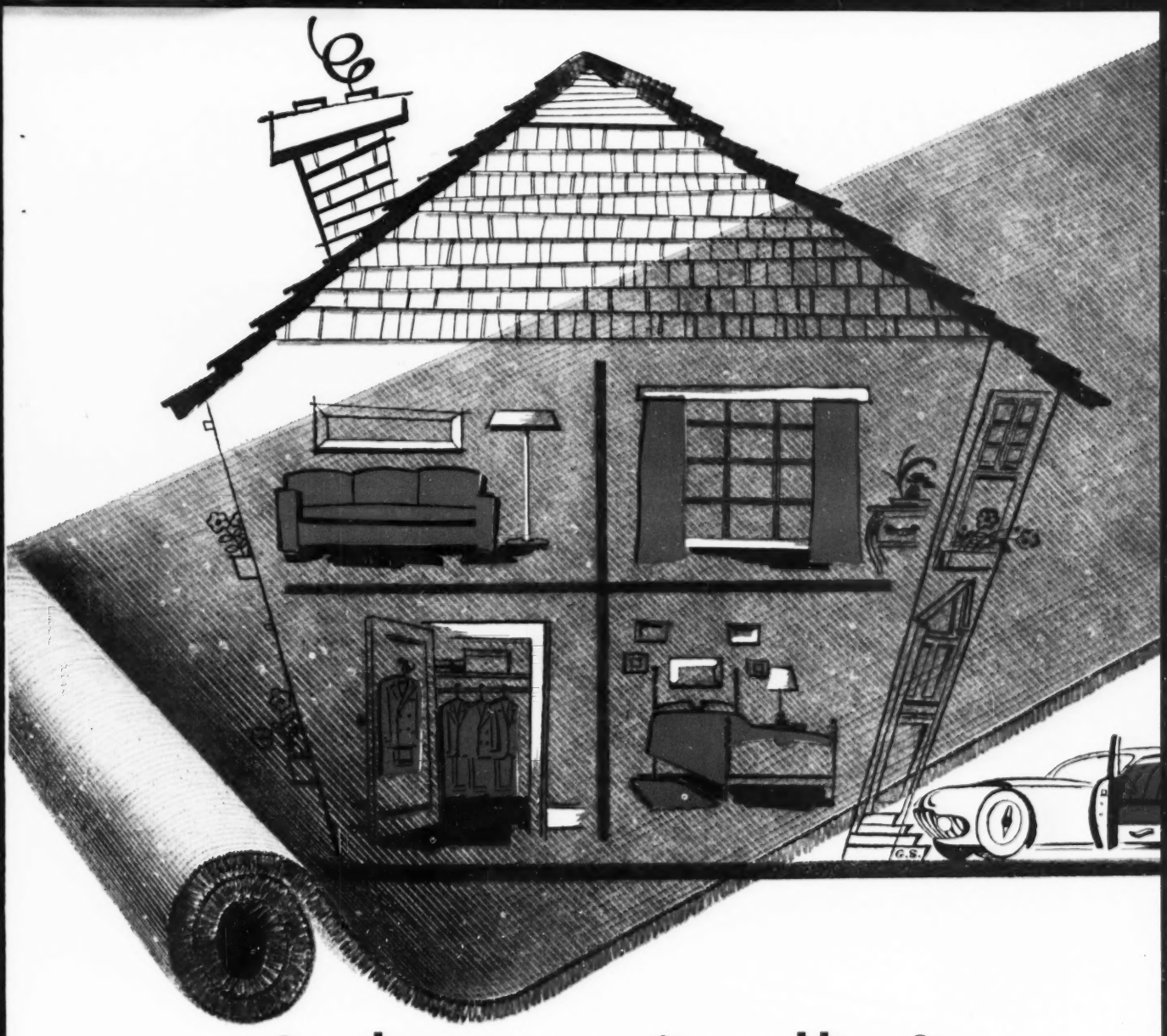
**Toronto, Canada**

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N.Y.



# Are these your coating problems?

- **Dye discoloration and breakdown?**
- **Poor fabric body and strength?**
- **Difficult curing?**
- **Lack of clarity?**
- **Disagreeable odor?**

**New Kralac makes them problems of the past!** Especially developed by Naugatuck Chemical for coating and finishing both pile and flat fabrics, Kralac latex gives them a millful of wonderful new properties—quickly, easily, safely, surely.

**New Kralac can be applied** before or after dyeing—*ends* dye discoloration and breakdown!

It imparts excellent "hand"—improved locking, tensile, and tear strength—outstanding resistance to ravelling and staining.

You'll find Kralac has far superior clarity, too—**and it's as nearly odor-free as possible.**

What's more, Kralac gives high tensiles **without curing!** It needs no expensive and complicated equipment—can be applied by standard coating methods in mills everywhere!

**Whether you manufacture carpets,** other pile fabrics, flat fabrics for upholstery, drapery, sheeting, or fabric of any kind, you'll find Kralac can give your product finer, more lasting properties with ease and economy never before possible.

Find out how Kralac® can turn *your* problems into profits. Send the coupon below.

**Naugatuck Chemical**

NAUGATUCK, CONNECTICUT
*Division of United States Rubber Company*

BRANCHES: Akron • Boston • Charlotte • Chicago • Los Angeles • Memphis • New York
Philadelphia • IN CANADA: Naugatuck Chemicals, Elmira, Ontario

Naugatuck Chemical, 314 Elm St., Naugatuck, Conn.
Please send technical data on Kralac for textiles to:

Name _____

Title _____

Company _____

Address _____

City _____ Zone _____ State _____

# "CONVERSATIONS LIKE THIS ARE COMMONPLACE TODAY!"

| | | | |
|---|---|---|---|
| 10/1 | 20% Nubs<br>80% 3 Denier Bright Viscose | 26/1 | 20% Dynel 3 Denier-3"<br>20% Viscose 3 Denier-3"<br>60% 64's Australian Top-3" |
| 16/1 | 12% 3 Denier Nylon-2½"<br>38% 3 Denier Acetate-2½"<br>50% 3 Denier Dull Viscose-2½" | 28/1 | 20% Australian Top-64's<br>80% Acrilan 3 Denier-3" |
| 14/1 | 60% 64's Australian Top<br>40% Orlon-3 denier-3" | 28/1 | 100% Orlon 3 Denier-2½" |
| 16/1 | 7% 3 Denier 3" Nylon-2½"<br>43% 3 Denier Acetate-2½"<br>50% 3 Denier Dull Viscose-2½" | 30/1 | 100% Nylon 3 Denier-3" |
| 26/1 | 80% 3 Denier Dacron-3"<br>20% Australian Top-64's | 32/1 | 80% Nylon 3 Denier-3"<br>7½% Dull Viscose 3 Denier-3"<br>12½% 64's Australian Top |

We Mill Managers must recognize that these are the facts we must face — in 1953 over 687 million pounds of synthetic staples will be manufactured and spun. Our own Sales and Designing Department have given us these 10 blends to spin and weave. Tell me, can Saco-Lowell help us to meet this complex demand?

Why yes, Mr. Treasurer, we can. Saco-Lowell Shops anticipated this demand and now have ready for installation mill tested units designed and engineered for the very job. Our 3 Over 4 Drawing, F-5 Roving Frame and Z-5 Spinning will handle all of your blends efficiently. Under proper conditions you will have no trouble making quality yarns and fabrics with this equipment.

# SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

# What's U. S. Rubber doing with spooler sleeves?

Making them of Uscolite, the rubber plastic. This minimizes creel breaks on the warper, thereby preventing wild yarn and knots from occurring in the twister beams and slasher beams, saving time and work.

This remarkable material is exceptionally long-lived and has excellent resistance to chipping around the edges. Uscolite Spooler sleeves are available in both Type A and Type C sizes for Barber Colman spoolers—in 3 colors—blue, gray, brown.

U. S. Rubber's line of textile mill specialties is the largest and most extensive in the industry. The use of these textile specialties *reduces* cost, *increases* product quality. Write for full information without delay to address below.

PRODUCT OF U.S.RUBBER SERVING THROUGH SCIENCE

**UNITED STATES RUBBER COMPANY**

MECHANICAL GOODS DIVISION · ROCKEFELLER CENTER, NEW YORK 20, N. Y.

# Powell Engineers always look to the future!

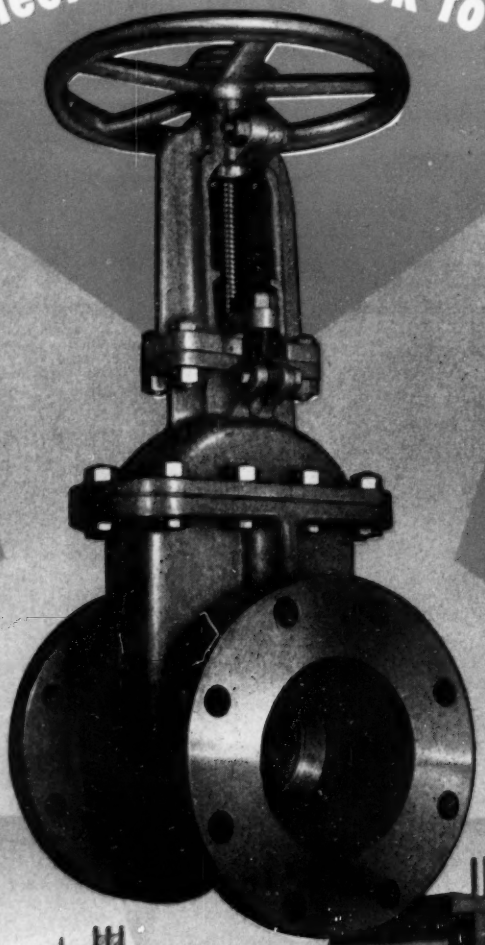


Fig. 2453-G—150-pound O. S. & Y. Gate Valve. Sizes 5" to 30", incl. All dimensions conform to latest standards. Can be furnished in any metal or alloy needed to resist corrosion

DEPENDABLE VALVES SINCE 1846

Powell Valves are not only made in every type, size and material needed to meet all your flow control requirements but, because Powell Engineers always look to the future, they give special attention to those important details in design that make all Powell Valves give such long, dependable service and require so little maintenance.

**The Wm. Powell Company**
Cincinnati 22, Ohio

# POWELL

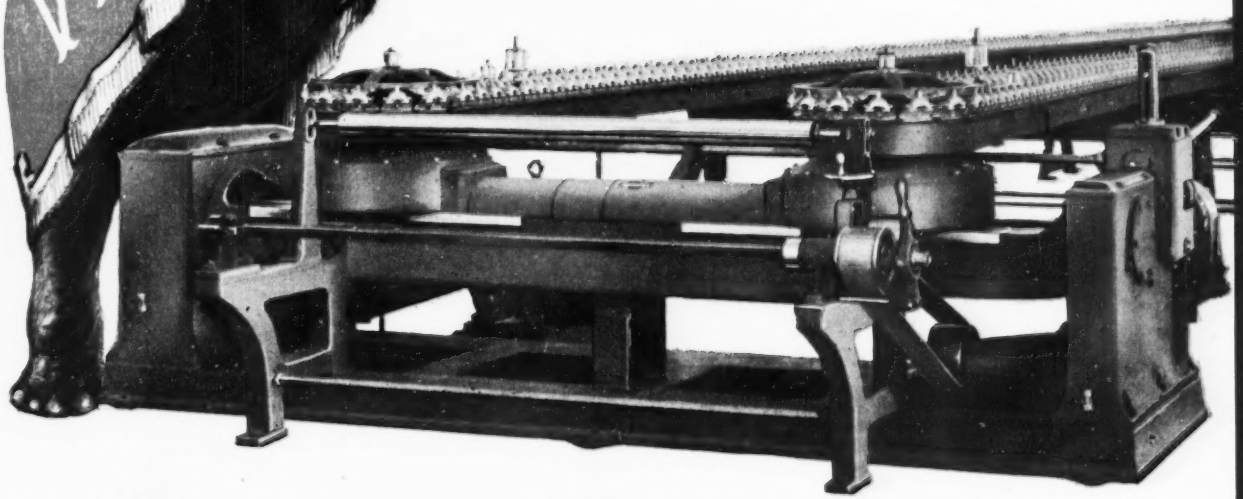
BRONZE, IRON, STEEL AND CORROSION-RESISTING VALVES

# TALENTED FELLOW

Most people think of the elephant as a clumsy brute. In reality he is one of nature's masterpieces of balanced design. His trunk, that effortlessly pulls a circus tent stake, can deftly pluck a peanut from a small boy's hand. He is just the thing for pulling circus wagons from the mire, yet can balance his body on a tiny stand.

There are masterpieces of balanced machine design, too. One of them is the Van Vlaanderen Heavy Duty Tenter. It is built massively to withstand the racking strain of heavy clip chains revolving at high speed. It is so precisely built that it can operate around the clock indefinitely without repair. It can tenter a wide variety of fabrics, speedily and with economy.

Write for complete mechanical details of this Jumbo Tenter.



# VAN VLAANDEREN
## MACHINE COMPANY

370 Straight Street, • Paterson 3, New Jersey
*Cable address: Vlaanderen, Patersonnj, U.S.A.*

In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina
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WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

# NOW TWO NEW HELPS FOR DYEING DACRON · ORLON · DYNEL

Dynadye DA and Dynadye V will give you excellent wet and dry crock-fastness, uniform dyeing of blends, level dyeing action and deep, even shades. It is equally effective under ordinary dyeing conditions for straight or blended fiber combinations in yarn, skein, piece or finished goods.

## DYNADYE DA

. . . a dispersion of chlorinated aromatic solvent, recommended for use where fibers are sensitive to strong alkalis.

**Use it for . . .**

Dacron Acetate and Viscose blends — with acetate and direct dyestuffs.

Dacron and Wool blends — with acetate dyestuffs and neutral dyeing acid colors.

Dynel and Wool — with acetate dyestuffs and neutral dyeing acid colors.

all-Dacron — with acetate dyestuffs.

## DYNADYE V

. . . a solubilized substituted phenol with excellent wetting and penetrating qualities.

**Use it for . . .**

all-Dacron — with acetate or azoic dyestuffs.

all-Orlon type 41 — with acetate or acid dyestuffs. Use with cuprous ion method to give brighter and deeper shades.

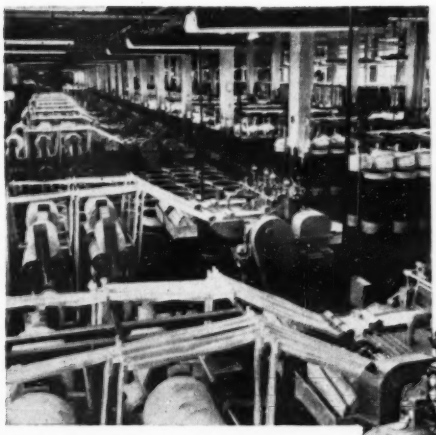
Dynel — with acid dyestuffs, cuprous ion method — also with basic dyestuffs.

WRITE FOR TECHNICAL DATA SHEETS . . .
or see us at the Knitting Arts Show — Booth 25.

AMALGAMATED CHEMICAL CORP. Philadelphia 34, Penna.
Ontario and Rorer Streets
Hosiery and Fabric Finishes, Dyeing Assistants and Scouring Agents

Southern Division:
1819 Spring Garden Street
Greensboro, N. C.

# Amalgamated



# 50% less waste...

**WARNER & SWASEY PIN DRAFTER**

- Eliminates costly steps in preparation of sliver for roving
- Produces better, more evenly blended sliver in greater volume
- Uses either combed sliver or ball top
- Discharges to coiler cans or to single or double meche balls
- Applicable to French, Bradford or American systems

## after installing WARNER & SWASEY PIN DRAFTERS

THIS IS THE ACTUAL FIGURE given us by a leading yarn manufacturer after the combing and drawing departments of his mill were completely equipped with Warner & Swasey Pin Drafters.

The unique design of the Pin Drafter's faller bed, combined with close nip control between faller and drafting roll sections, exercises more control over the total cross section of the fiber diagram. The results—a drastic reduction in waste. And because the pin-controlled sliver is kept open all the way to the reducer, it produces *a better over-all product.*

And at this particular mill, the improved sliver produced by the Pin Drafters resulted in additional waste savings in spinning, reeling and winding.

Savings like these add up to just part of the additional profits you'll realize when you install Warner & Swasey Pin Drafters in your mill. Call in our Field Engineer in your territory to get the complete details.

**BRANCH OFFICES:**

61 Rivulet St., North Uxbridge, Mass.
6910 Market St., Philadelphia, Pa.
Candler Building, Atlanta, Ga.
1820 Browning Ave., Charlotte, N.C.

WARNER & SWASEY Cleveland PRECISION MACHINERY SINCE 1880

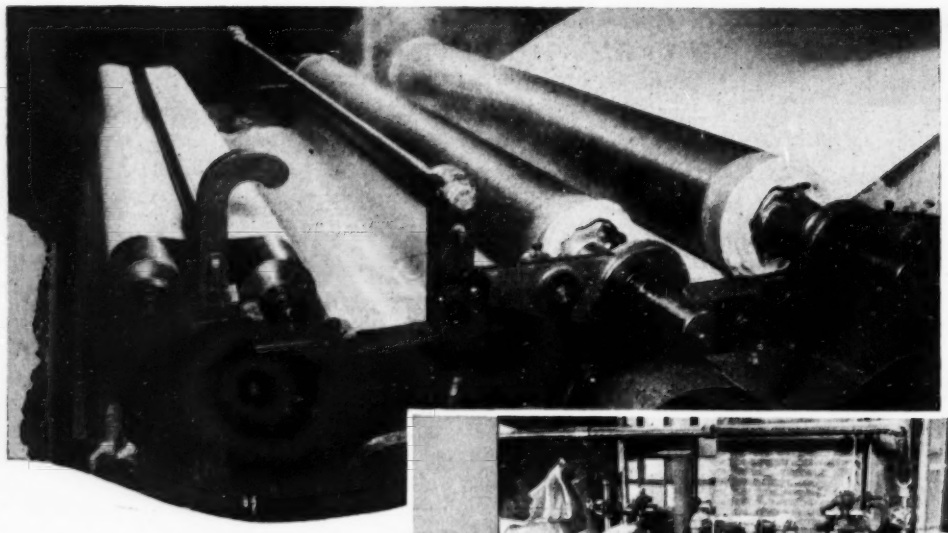
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

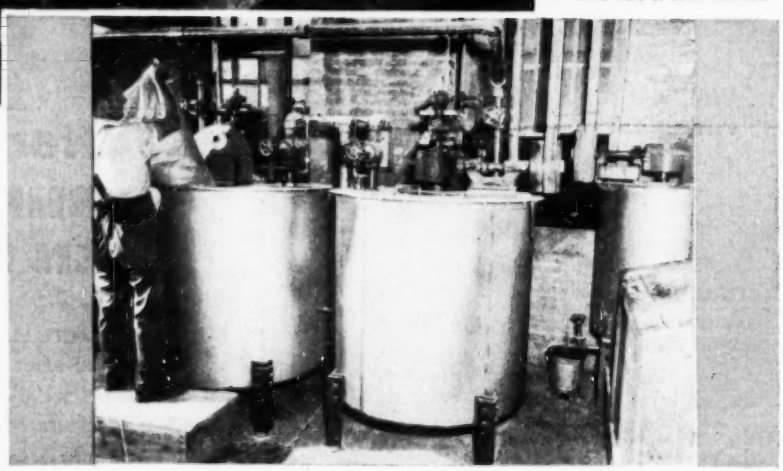
# Stainless Steel roll jackets on these slashers

# save $163.47 per year

## in maintenance costs



◀ Use of Stainless Steel jackets on the two cloth-covered rolls at the left has reduced maintenance costs and eliminated rust contamination. The jackets were made by West Point Foundry, West Point, Ga. Size boxes on Monroe Cotton Mills' three slashers are also Stainless and have been in service five years.



▼ These three kettles in the size mixing room at Monroe Mills are also Stainless Steel. They have been in service seven years, and have eliminated the continuous repair necessary when tanks were of other materials.

IN July, 1949, Monroe Cotton Mills, Monroe, Ga., began using Stainless Steel jackets on the sizing and finishing rolls of three slashers. In the next 12 months, these Stainless jackets accounted for a saving in maintenance costs of $163.47, or $54.49 per slasher.

Cast iron rolls were used previously and required cleaning at six-month intervals. The company estimates labor costs for the twice-yearly cleaning of the three slashers at $110.40, to say nothing of lost production during the eight-hour shutdown at each cleaning.

The remaining saving of $53.07 is in slasher cloth. The Stainless jacket rolls produced more than 1,000 yards of additional fabric per yard of slasher cloth, due to elimination of rust.

These maintenance savings alone paid the entire cost of the Stainless roll jackets in less than two years. And they still had years of service life left. In addition, "appreciable" savings were realized from elimination of rust-contaminated yarn before each semi-annual cleaning.

For minimum maintenance, long service life and freedom from product contamination, take advantage of the corrosion resistance of Stainless Steel. Its tough, dense, smooth surface is kind to fabrics wherever you use it in the mill. And for finest performance, be sure your equipment fabricator uses U·S·S Stainless Steel.

UNITED STATES STEEL CORPORATION, PITTSBURGH · AMERICAN STEEL & WIRE DIVISION, CLEVELAND · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH · TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. · UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

**U·S·S STAINLESS STEEL**

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

3-08

**UNITED STATES STEEL**

# Building up to a costly letdown...

OF COURSE YOU'RE NOT—OR AT LEAST NOT CONSCIOUSLY. But perhaps you are missing a bet here and there. The sketch is intended to remind you of the importance of building a sound lubrication structure—from the bottom up. We'd also like to remind you that a Gulf Sales Engineer can give you practical help on any of these individual phases of the lubrication problem. For additional information, write, wire, or phone your nearest Gulf office.

**GULF OIL CORPORATION**
**GULF REFINING COMPANY**
**Pittsburgh 30, Pennsylvania**

GULF SERVES INDUSTRY

# TEXTILE BANKING COMPANY

Inc.

*Factoring Service*

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

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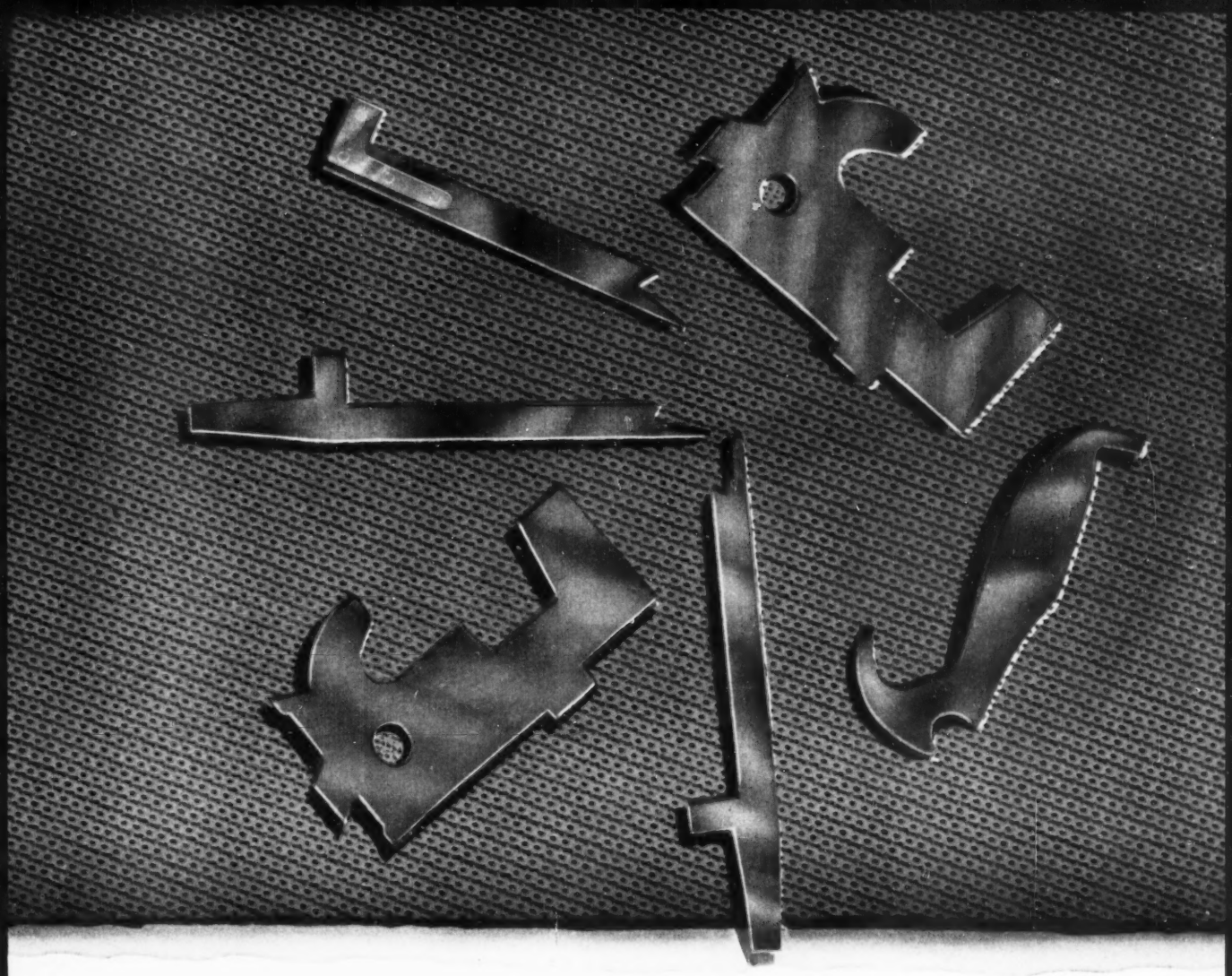

**TORRINGTON'S COMPLETE NEEDLE SERVICE...**

# covers a wide range of essential parts—

Torrington parts, like Torrington needles, are available in a complete range to meet every knitting requirement. No need to "shop around." The quality parts you want are always available at Torrington. Call our nearest office for prompt service.

**THE TORRINGTON COMPANY**
Torrington, Conn., U.S.A.
Established 1866

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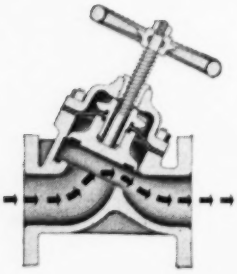
*Branches:* New York · Philadelphia · Chicago · Boston · Greensboro, N. C. • St. Louis • Bedford, P.Q.–Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 W. Vernon Ave., Los Angeles 37, Calif. • Broadgate House, 7-10 Eldon St., London E. C. 2, England



FOR SAFER CONTROL ---------- OF HARD-TO-HANDLE FLUIDS

# CRANE Packless Diaphragm Valves

## Now Available in *New* Materials

**WORKING PRESSURES**—up to 150 pounds. Water, air, oil, or gas, 180°F. maximum temperature, depending on valve size and materials.

You asked for it—and now Crane gives you this outstanding Diaphragm Valve in a new wide choice of body, disc insert, and diaphragm materials—in unlined or lined patterns. Whichever is specified, Crane design gives you important advantages including—long diaphragm life . . . positive shut-off in case of diaphragm failure . . . less resistance to flow with minimum pressure drop . . . easy operation . . . simplified maintenance at lowest upkeep cost.

Full specification data is in your new Crane 53 Catalog—or ask your Crane Representative.

**SCREWED ENDS, UNLINED** Sizes ½ to 2 in.
Brass, Cast Iron, Aluminum, or 18-8 Mo body and disc. Furnished with neoprene, Buna N, and natural rubber diaphragm and disc insert.

**FLANGED ENDS, UNLINED** Sizes ½ to 6 in.
Cast Iron, Aluminum, or 18-8 Mo body and disc. Furnished with neoprene, Buna N, and natural rubber diaphragm and disc insert.

**FLANGED ENDS, LINED** Sizes 1 to 6 in.
Cast Iron body only. Lined with neoprene or hard natural rubber. Disc coated with neoprene or soft natural rubber.

•

Other body and disc materials, as well as linings, available on special order. Also sliding stem valves for automatic operators of all types.

# CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
*Branches and Wholesalers Serving All Industrial Areas*

**VALVES • FITTINGS • PIPE • PLUMBING • HEATING**

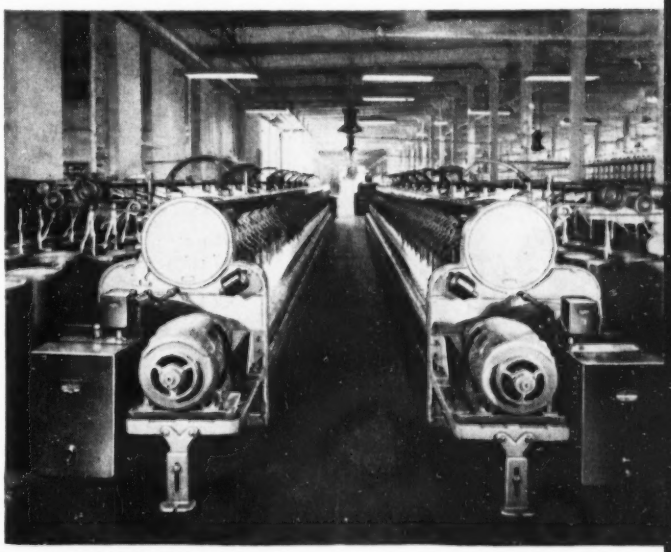
# CUTLER-HAMMER

## MOTOR CONTROL FOR THE TEXTILE INDUSTRY

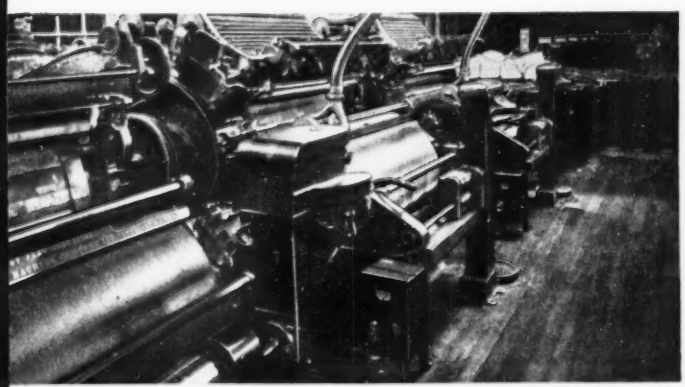
### *You can judge it by the men who specify it*

Cutler-Hammer Motor Control is so frequently the specified choice of mills staffed with able technical men that the record is most convincing. These men know that Cutler-Hammer dependability is no mere competitive claim. They know it is the earned advantage of the longest and most intensive specialization in motor control engineering. They have seen its proof stand out clearly in Cutler-Hammer Motor Control performance ... over the entire range of textile control requirements from the simplest starters to the most complex electronic equipment. These men know *both* motor control and textile production needs. Their continued preference for Cutler-Hammer can mean nothing less than continued satisfaction. Judge Cutler-Hammer Motor Control by the men who specify it!

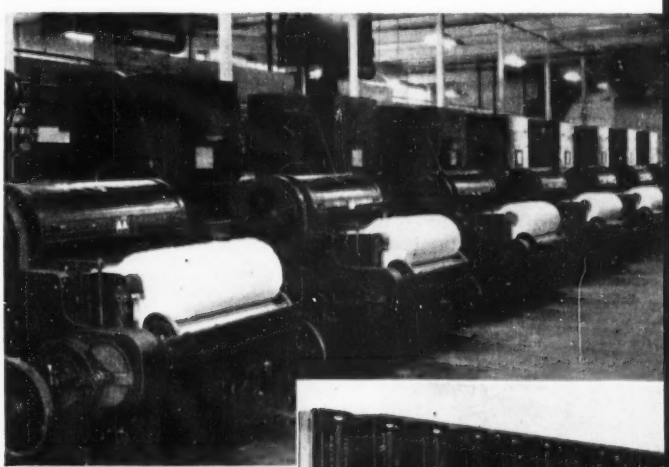
You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.



**for STATESVILLE** Cutler-Hammer Smooth Starters and Shipper Rod Switches mounted on roving frames. STATESVILLE DIVISION, The Seminole Mills, Statesville, N. C.

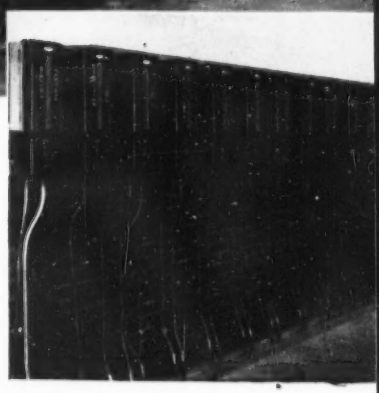


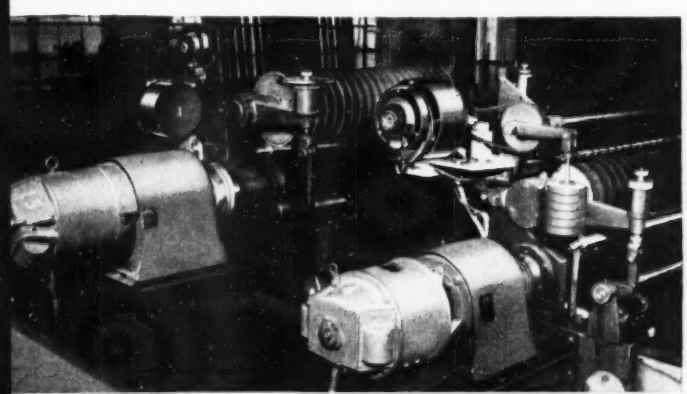
**for ANCHOR ROME.** Cutler-Hammer Card Controllers in the Anchor Rome Mills, Inc., Rome, Ga.



**for EXPOSITION**

at Atlanta. Cutler-Hammer Safety Switches and Automatic Starters shown at the right serve the pickers shown above. Cutler-Hammer Control is also used in opening, cleaning, on drawing frames, roving frames . . . on through to the looms in this great mill.





**for CONE MILLS.** Cutler-Hammer Dancer Roll Rheostats and Vernier Rheostats on twenty motor indigo dye range in Cone Mills, Greensboro, N. C.

CUTLER·HAMMER
MOTOR CONTROL
C-H

# Many mills realize Big Savings by changing to Dayton Endless Check Straps

Alert, cost-conscious textile mills everywhere are adopting Dayton Thoro-Checks as standard equipment on their looms. Such action follows the results of many test installations, proving the amazing ability of Dayton Thoro-Checks to reduce check strap costs.

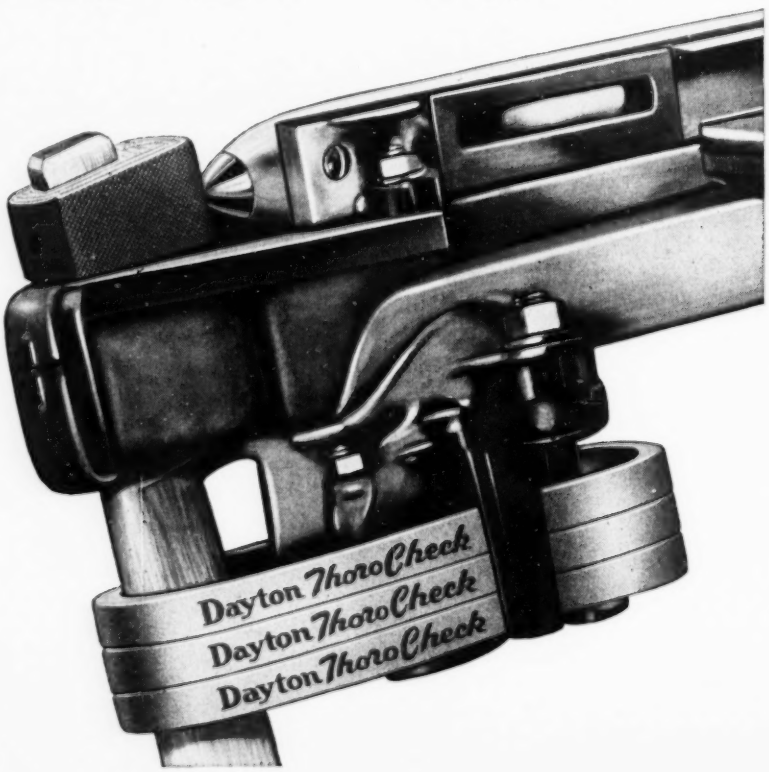
Actual installations show that this Dayton endless check strap outlasts other types by 25% to 50%, and in some instances, even more. For example, a large southern mill installed them on X-2 looms. Since then they have seen 5-day week, round the clock operation for over 10 months. And they're still in service. Old type straps lasted only two or three months on these same looms. Besides longer check strap life, the mill also realized considerable saving in maintenance labor since almost no adjustment of the straps was necessary.

There are definite reasons for such outstanding performance. Smoother checking by means of a snubbing action stops the stick with less impact on each individual strap, thus lengthening strap life. Also, an endless strap eliminates the drag over the stick of open end types—another step toward longer strap life.

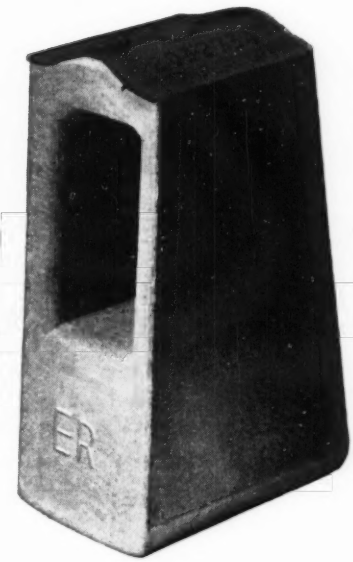
You enjoy important maintenance savings too when you equip with Dayton Thoro-Checks. Once the straps are properly installed, there is almost complete freedom from adjustment, even on Monday morning starts. That's because the rubberized fabric construction is unaffected by temperature or humidity and doesn't "grow," even under the terrific pounding of high-speed looms.

There's an important safety factor with Daytons too, both from the standpoint of damage and from lost production. In the event of breakage after long service, generally only one-strap will break at a time, thus providing a safety factor not possible with one-piece straps. They may be replaced individually or in multiples.

If your looms are not yet equipped with Dayton Thoro-Checks, it will pay you to try them. We believe you too will find that they pay for themselves many times over. Get in touch with your Dayton Textile Jobber or write: Dayton Rubber Co., Woodside Building, Greenville, S. C.




When looms are equipped with Dayton Thoro-Checks and Dayton Thorobred Pickers, you can count on efficient service at the lowest possible check strap and picker costs.



The Dayton Thorobred Loop Picker has the resiliency and stamina to receive and throw the shuttle millions of times without failure.

# Choose Dayton Thorobred Loop Pickers to give you long, efficient service!

Dayton Thorobred Pickers are built strong to take the pounding of high-speed shuttles for long periods. In fact, they often last twice as long as ordinary pickers.

Because of the slight tilt with which the picker has been designed to fit the stick, there is always perfect shuttle contact. As a result, Dayton Thorobred Pickers keep their shape, stay put on the picker stick, and practically eliminate jerked-in fillings. Besides, Dayton's front edges are rounded to eliminate hanging filling and its narrow back permits free non-wear on the lay-in strap.

These are only a few reasons why so many mill operators insist on Dayton Thorobred Pickers. Get the complete story from your mill supply jobber or write direct to Dayton Rubber, Woodside Bldg., Greenville, S. C.

## Here's why Dayton Thoro-Checks are so economical

- *Outlast other straps by 25% to 50%*
- *Smooth checking*
- *Little or no adjustment*
- *No elongation*
- *Unaffected by temperature or humidity*
- *Individual or multiple replacement*
- *Protect binder and picker stick*
- *Give greater picker and shuttle life*

**Dayton Rubber**

*Since 1905*

**TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING**

**Dayton Rubber Company, Textile Division**
**Woodside Bldg., Greenville, S. C.**

©D.R. 1953

*Reliance Spinning-Frame Motor drives the Saco-Lowell Gwaltney Spinning Frame.*

**HERE'S WHY—**

# Saco-Lowell Recommends Reliance Motors for Your New Gwaltney Spinning Frames

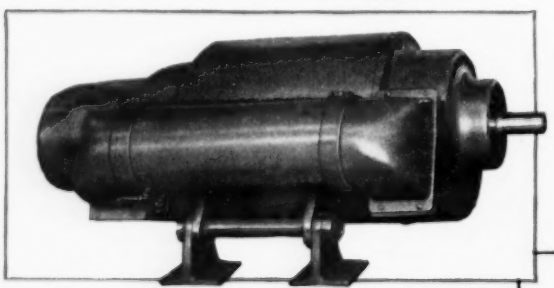
Reliance Totally-Enclosed Dual-Cooled Spinning-Frame Motors offer the advantages of water cooling without the disadvantages of conventional water-cooled motors. Heat is carried out of the room by water, thus reducing the load on the air-conditioning system. The unique Reliance cartridge-type heat exchanger which makes this possible can be removed for inspection or replaced by one man in three minutes without stopping the motor or disturbing its mounting.

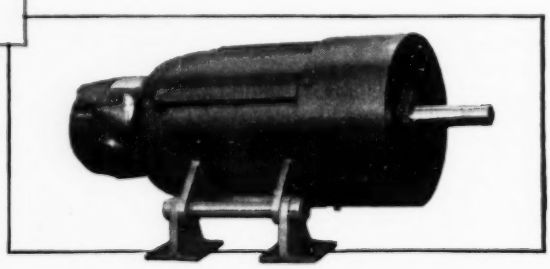
These a-c. motors have all features of Reliance PRECISION-BUILT Motors including the matchless Reliance pre-lubricated bearing . . ."You Can't Grease 'em Wrong".

For mills using air-cooled motors, Reliance offers a new totally-enclosed, fan-cooled design.

For more information, call one of the 52 convenient Reliance Sales Offices or write for Bulletins B-2301 and B-2302.

B-1453





*(Above) Reliance Totally-Enclosed Dual-Cooled Spinning-Frame Motor. (Right) Reliance Totally-Enclosed Fan-Cooled Spinning-Frame Motor. Axial-flow fan blows cooling air over the motor and several yards beyond, eliminating any "hot spots". Smooth contours prevent accumulation of lint on motors.*

**RELIANCE ELECTRIC AND ENGINEERING CO.**

**1085 Ivanhoe Road, Cleveland 10, Ohio • *Sales Representatives in Principal Cities***

# Parts molded of Du Pont NYLON on yarn uptwister

## *are strong, tough, wear-resistant...need no lubrication*

The performance of these parts molded of Du Pont nylon plastic for the Unirail Uptwister is another example of why machinery manufacturers are turning to nylon parts for outstanding performance, low production and maintenance costs.

Du Pont nylon is resistant to both abrasion and impact. It is resilient . . . has low deformation under load . . . withstands continuous operation to 250°F. Nylon can be molded in thin sections and around inserts. And it has excellent bearing characteristics . . . requires little or no lubrication . . . greatly reduces danger of yarn contamination from oil or abraded particles.

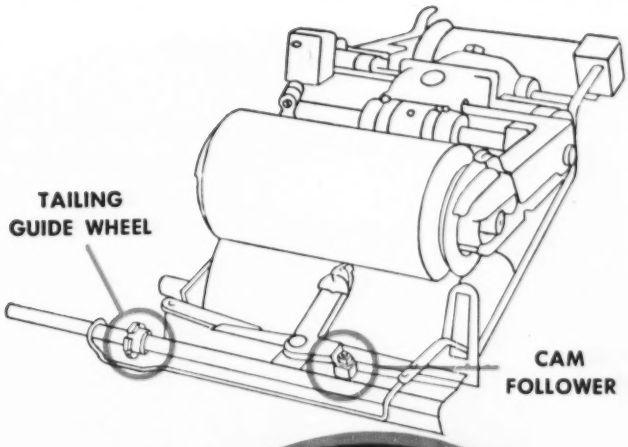
Drafting parts, thread guides, verge plates, condensers and other textile machinery parts molded of Du Pont nylon have also proved efficient and economical in use.

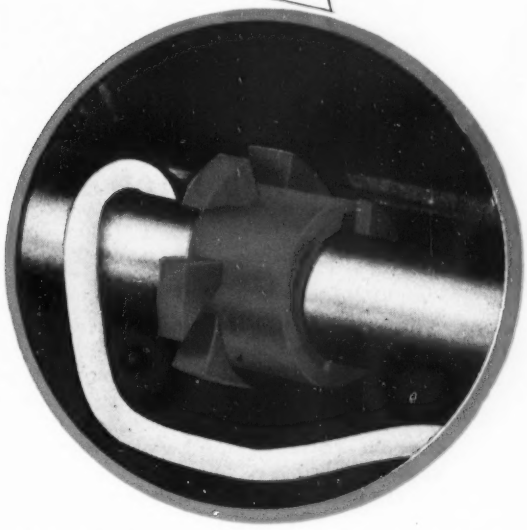
Perhaps you can profit by using parts molded of Du Pont nylon. We'll gladly furnish the names of suppliers who will assist you in developing new parts or improving present ones. For further information, write:

**E. I. du Pont de Nemours & Co. (Inc.)**
**Polychemicals Department,**
**Room 194, Du Pont Building**
**Wilmington 98, Delaware**

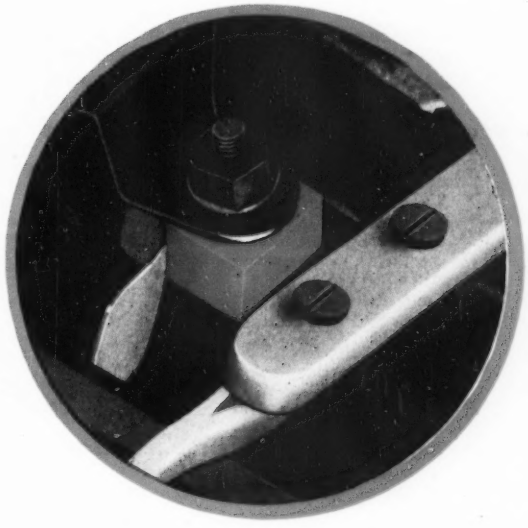
*Parts molded for Universal Winding Co., Providence, R. I., by Standard Plastics Co., Attleboro, Mass.*

DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS



**TAILING GUIDE WHEEL** is easily installed . . . has high wear resistance. Du Pont nylon is readily molded in this intricate shape. Its smooth surface eliminates snagging.



**CAM FOLLOWER** is economically molded to close tolerances with Du Pont nylon. Maintenance is minimized since this nylon part needs no lubrication.

# *Life Stream of Industry*

# BRINE

***Now Yours Automatically Where You Want It —When You Want It***

CANNING

TANNING

WATER SOFTENING

MEAT CURING

DYEING

CHEMICALS

YOUR INDUSTRY, like so many others, very probably uses brine in its operation.

And now the LIXATE Process, pioneered and developed by the International Salt Company, takes all the complications, all the inaccuracies, all the costly handling out of brine making. You use rock salt—and gravity does all the work.

You just turn a valve and *instantly* you have brine where you need it, when you need it—automatically!

And because this pure brine is *always* 100% saturated, because it *always* contains exactly 2.65 pounds of salt per gallon, your brine measurements are *unfailingly* 100% accurate.

Hundreds of companies have saved thousands of dollars, have improved the quality of their products by installing the LIXATE Process. Let International's Industrial Division help *you*. Send the coupon below, today.

INTERNATIONAL SALT COMPANY, INC.
INDUSTRIAL DIVISION, Scranton 2, Pa.

I am interested in knowing what the *Lixate* Process can do for MY plant. Please have an International Industrial Engineer contact me as soon as possible. I understand there is no cost, no obligation.

FIRM NAME _____

ADDRESS _____

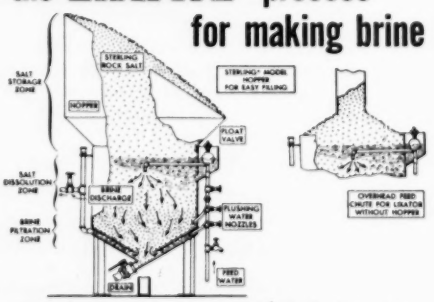
CITY _____ ZONE _____

STATE _____

MY NAME _____

MY TITLE _____

## the LIXATE* process for making brine




## HOW LIXATOR WORKS

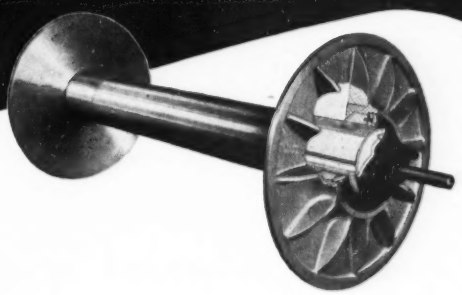
**In the dissolution zone**—flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—through use of the *self-filtration* principle *originated by International Salt Company*, the saturated brine is thoroughly filtered through a bed of *un*dissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

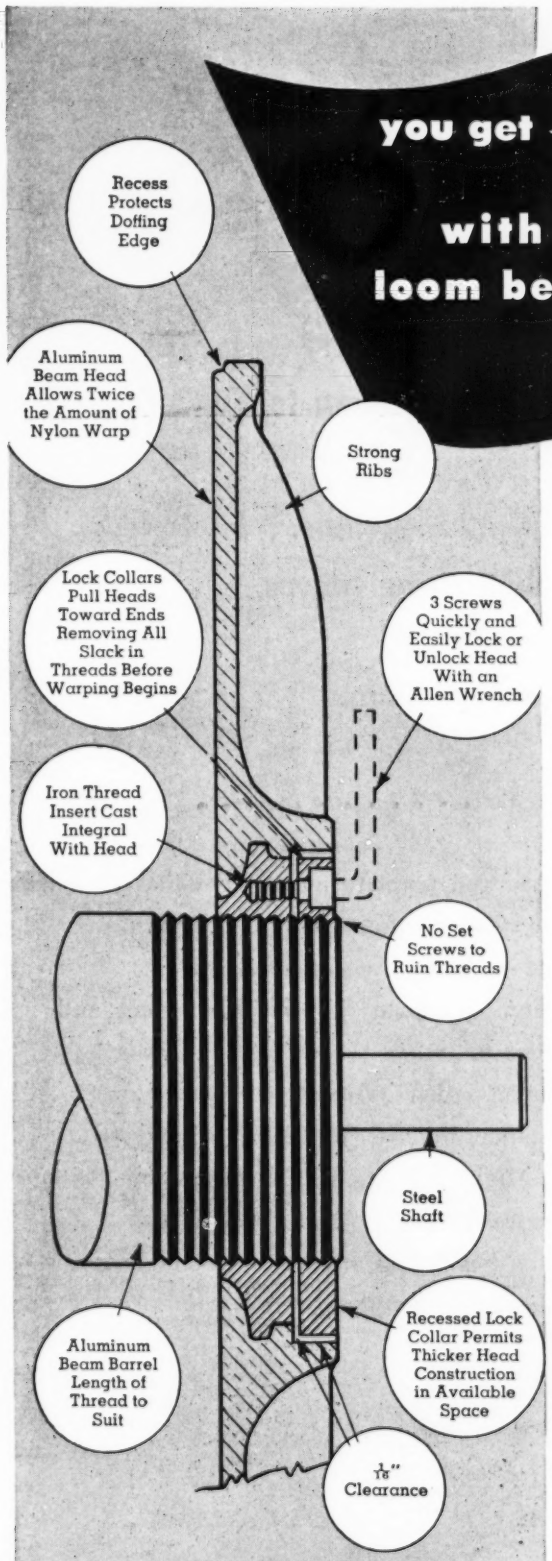
**INTERNATIONAL SALT CO., INC.**
**SCRANTON, PENNSYLVANIA**

SALES OFFICES: Atlanta, Ga. • Chicago, Ill. New Orleans, La. • Boston, Mass. • St. Louis, Mo. Newark, N. J. • Buffalo, N. Y. • New York, N. Y. Cincinnati, O. • Philadelphia, Pa. • Pittsburgh, Pa. Richmond, Va. • ENGINEERING OFFICES: Atlanta, Ga. Chicago, Ill. • Buffalo, N. Y. *Reg. U. S. Pat. Off.

**you get** { 1. Quick, easy adjustment
2. Greater head strength
3. The utmost simplicity

# with *HAYES* adjustable loom beam head locking device




Recess Protects Doffing Edge
Aluminum Beam Head Allows Twice the Amount of Nylon Warp
Strong Ribs
Lock Collars Pull Heads Toward Ends Removing All Slack in Threads Before Warping Begins
3 Screws Quickly and Easily Lock or Unlock Head With an Allen Wrench
Iron Thread Insert Cast Integral With Head
No Set Screws to Ruin Threads
Steel Shaft
Recessed Lock Collar Permits Thicker Head Construction in Available Space
Aluminum Beam Barrel Length of Thread to Suit
1/8" Clearance

*Aluminum construction is free from rust, runs true and is easily kept smooth.*

PATENT APPLIED FOR

The new Hayes adjustable beam head locking device (pat. applied for) is a marvel of **practical** simplicity. Three screws easily and quickly lock or unlock the head with an ordinary Allen wrench. No special tools are required and in addition to its simplified design the new Hayes locking device is strong and sturdy in construction and stays put, once properly locked in place.

Hayes long experience in machining and manufacturing light weight metal beams has resulted in a light weight, adjustable loom beam that gives you greater head strength, increased rigidity and a permanent running balance that stays true indefinitely. The glass-smooth surfaces of course, do not rust, and require no painting or maintenance expense. Hayes produces adjustable loom beams for all standard looms. Write today for complete information on Hayes Beams.

*The World's Largest Producer of Light Metal Beams*

## HAYES INDUSTRIES, INC.

Home Office: Jackson, Michigan

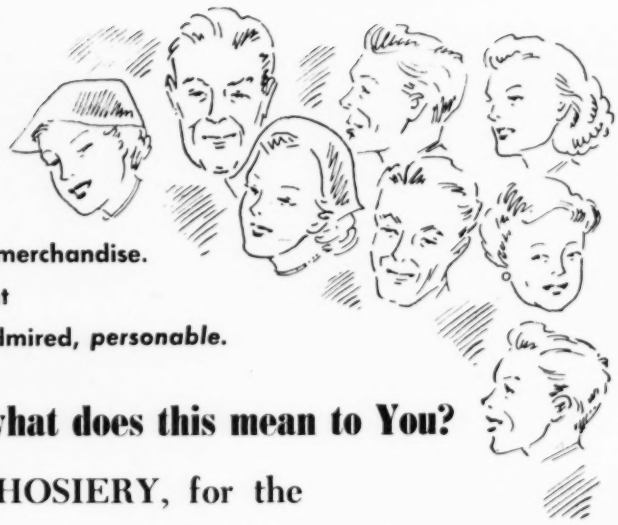
**EASTERN REPRESENTATIVE:**
J. Paul Laird
Philadelphia, Pennsylvania

**SOUTHERN REPRESENTATIVE:**
R. E. L. Holt Jr. & Associates
Greensboro, No. Carolina

**NEW ENGLAND REPRESENTATIVE:**
J. S. Fallow & Co.
New Bedford, Mass.

**CANADIAN REPRESENTATIVE:**
J. S. Fallow & Co.
Montreal, Canada

# *Who are these People?*

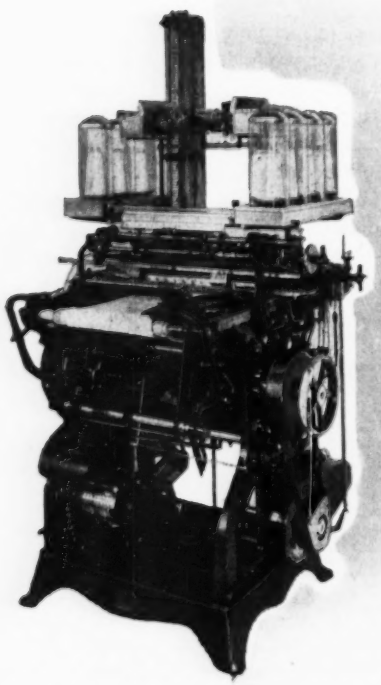


**They are the ultimate consumers of your merchandise.**
**They have intimate, personal desires; they want**
**to be accepted, admired, *personable.***

## SALES and PROFIT WISE, what does this mean to You?

The business of producing HOSIERY, for the great mass markets, as you well know, is constantly influenced by the fluctuating needs and wants of the people. To *sell* them you must satisfy them.

## TO BE SPECIFIC . . . . . .



A sound starting point to make **HOSIERY** that will satisfy the needs of these people, is superior equipment — adaptable equipment, proven in operation. Wildman has this equipment and the facilities to satisfy the demands of your creative imagination, production requirements . . . As an instance, for the HOSIERY field, this Wildman High-Production, Full-Fashioned Hosiery Machine gives you high production of the finest gauge hosiery so much in demand today. Inquire today for complete information.

**WILDMAN**
*Mfg. Co.*
NORRISTOWN, PA.

*Manufacturers of:* Full Fashioned Hosiery Machines; Circular Machines for Outerwear, Underwear, Sportswear, Trimmings; Stop Motions

# Five Du Pont Continuous Bleaching Systems that can help lower costs

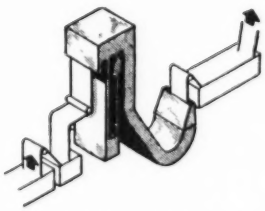
**CAPACITIES FROM 500 TO 7,500 LBS./HR.**

**Whether your mill is large or small, there's a Du Pont system to meet your space and production requirements.**

Each system assures lower over-all cost, flexibility, and ease of operation and control. Leading mills everywhere have modernized with continuous bleaching. So join the trend to better bleaching . . . investigate Du Pont Continuous Bleaching Systems. The coupon below will bring you full details. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

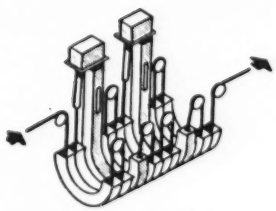
*NOTE: Du Pont does not build or sell the equipment illustrated. Du Pont Systems are available from the following equipment manufacturers:*

H. W. Butterworth & Sons, Beth Ayres, Pa.
Cook—P & N Machine Co., Boston, Mass.
Greenville Steel & Foundry Co., Greenville, S. C.
Rodney Hunt Machine Co., Orange, Mass.
Weisner-Rapp, Inc., Buffalo, N. Y.
Proctor & Schwartz, Inc., Philadelphia, Pa.



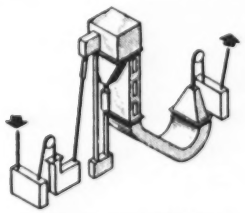
**500 TO 1,000 LBS./HR.**

Compact single-stage unit for the smaller plant or for specialty bleaching in larger plant. Handles cloth continuously at average rate of 75 yards per minute.



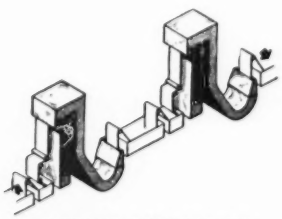
**750 TO 1,500 LBS./HR.**

Two-stage unit produces maximum yardage at lowest possible cost. One-man operation means savings in labor. Goods in the 3-7 yds./lb. class can be handled at 100 yds./min. speed.



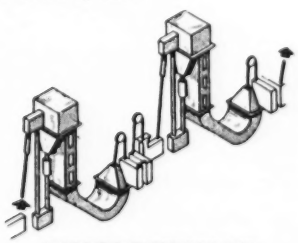
**1,500 TO 3,000 LBS./HR.**

Excellent arrangement for production requirements of 200,000 to 400,000 yds. weekly. Handles light and heavy constructions. Available in open-width design for goods that cannot be rope-processed.



**2,000 TO 6,000 LBS./HR.**

Flexible arrangement permits installation as single or two stage system. Requires only 325 to 500 sq. ft. floor space. Handles 75 to 125 yds./min. Matched units can be added to increase capacity.

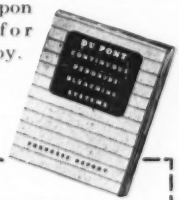


**3,000 TO 7,500 LBS./HR.**

For large-scale bleaching of print cloths, terry toweling, colored yarn, shirting, etc. Can be designed to process up to 300 yds./min. Open-width design also available.

**SEND FOR FREE ILLUSTRATED BOOK**

about Continuous Bleaching. It describes typical installations in leading mills and all phases of the process. Just fill out and mail the coupon below for your copy.




## DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems—including your free book.

*Name*_____ *Position*_____

*Firm*_____

*Address*_____

*City*_____ *State*_____

# Is long service life at low cost your problem?

## *here's how leading tractor manufacturers solve it with* NEEDLE BEARINGS

Many makers of farm tractors specify Torrington Needle Bearings because of their relatively low cost and their long maintenance-free operation under rugged conditions.

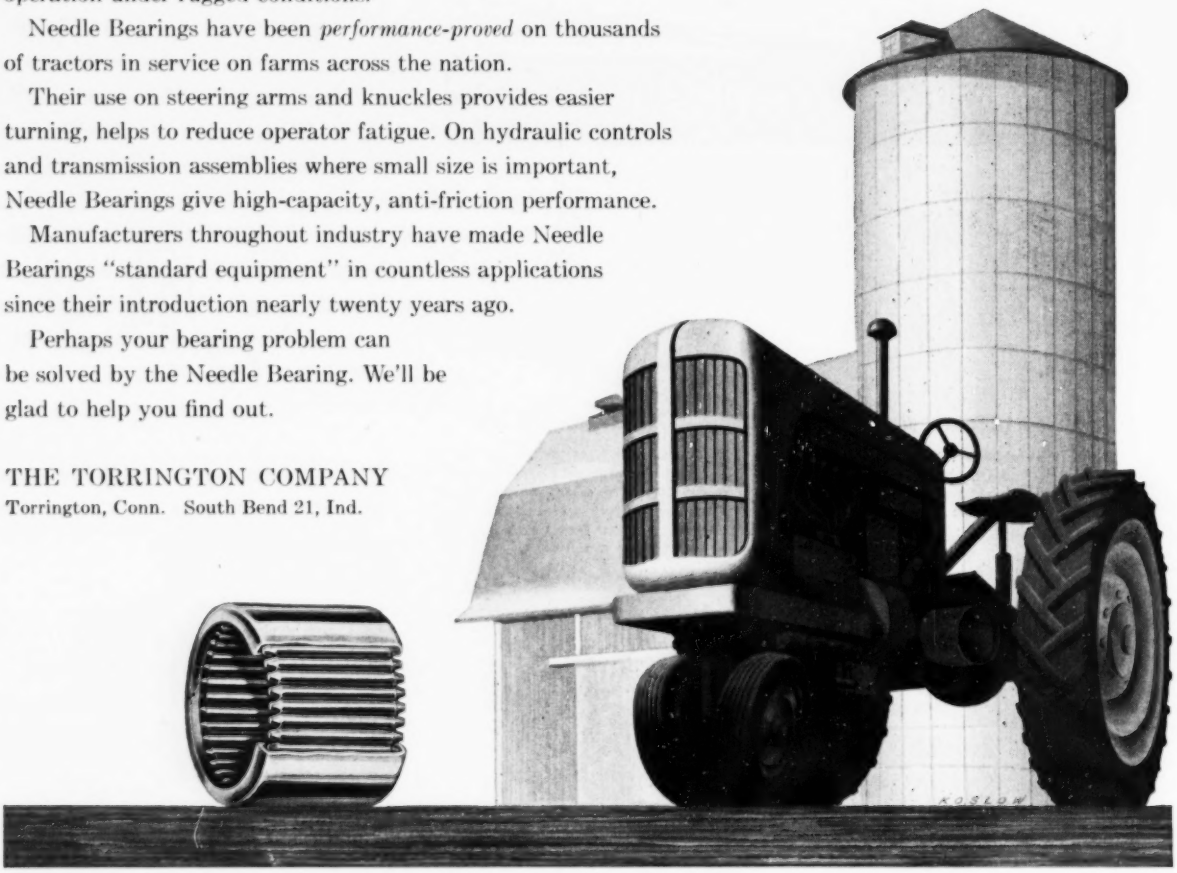
Needle Bearings have been *performance-proved* on thousands of tractors in service on farms across the nation.

Their use on steering arms and knuckles provides easier turning, helps to reduce operator fatigue. On hydraulic controls and transmission assemblies where small size is important, Needle Bearings give high-capacity, anti-friction performance.

Manufacturers throughout industry have made Needle Bearings "standard equipment" in countless applications since their introduction nearly twenty years ago.

Perhaps your bearing problem can be solved by the Needle Bearing. We'll be glad to help you find out.

THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.

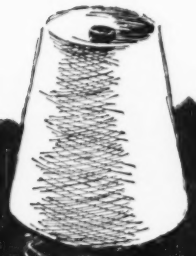


**TORRINGTON** *NEEDLE* **BEARINGS**

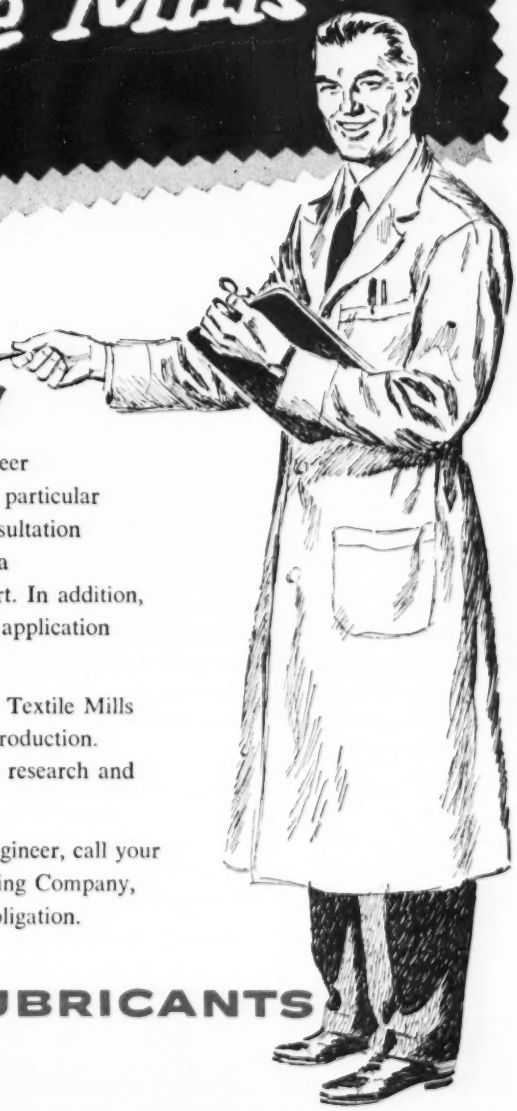
Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

*Trade-marks of some of the manufacturers who use Needle Bearings*

A-C ALLIS-CHALMERS · JOHN DEERE QUALITY FARM EQUIPMENT · MASSEY-HARRIS M-H · OLIVER · CATERPILLAR · Ferguson · INTERNATIONAL HARVESTER · Ford · MM MINNEAPOLIS-MOLINE MODERN MACHINERY · CASE



# Sinclair offers Lubrication Counsel to Textile Mills



## ...Engineers give Personal Attention to Individual Mills!

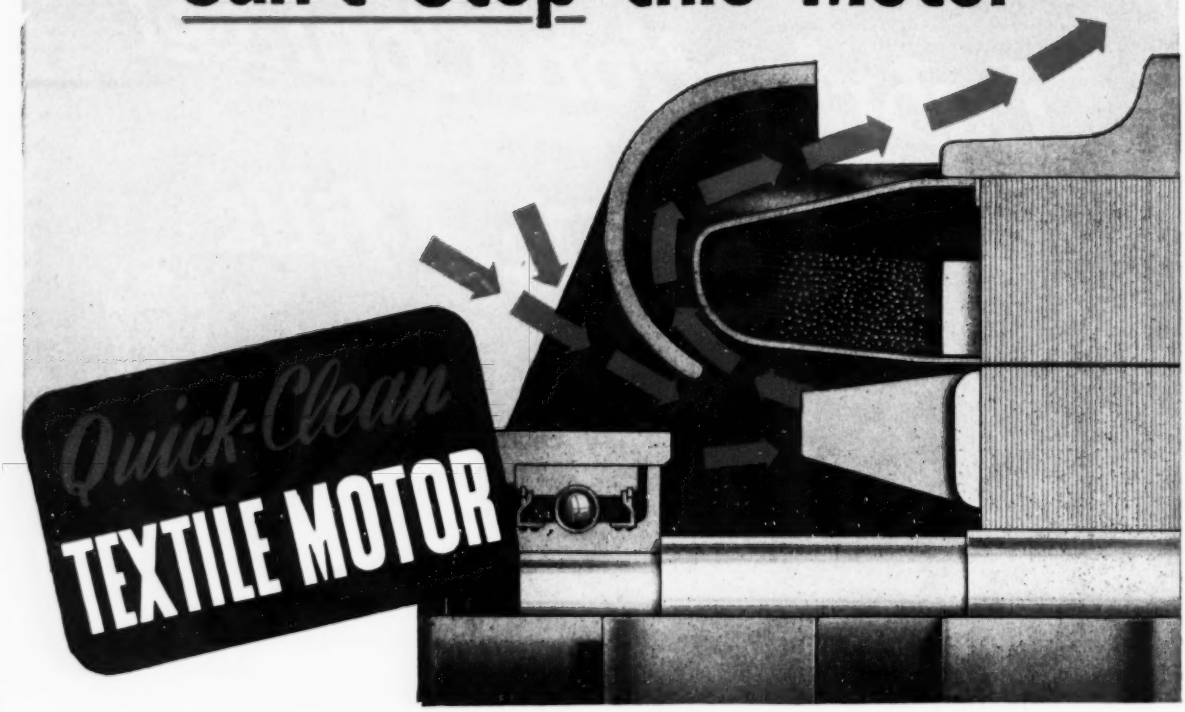
At your invitation, a Sinclair Textile Lubrication Engineer will survey your mill . . . study your machines and your particular lubrication problems. After his thorough study and consultation with your maintenance superintendent, he will prepare a comprehensive, detailed lubrication and procedure chart. In addition, he will brief your personnel about lubricants – proper application . . . handling and storage . . . waste elimination.

Sinclair lubrication counseling has helped hundreds of Textile Mills to retard wear . . . cut maintenance costs . . . step up production. Our representatives are backed by constant laboratory research and industrial experience.

To get the counsel of a Sinclair Textile Lubrication Engineer, call your local Sinclair Representative or write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y. There is *no* obligation.

**SINCLAIR TEXTILE LUBRICANTS**

# Here's Why Dirt and Lint Can't Stop this Motor




## *Wide Open Design Allows Powerful Fans To Sweep Lint And Dirt Right Out Of Quick-Clean Motor!*

YOU HAVE NO MOTOR PROBLEM from lint-laden atmospheres when you use *Quick-Clean* textile motors. *Quick-Clean* motors have wide open passages for cooling air and powerful fans to sweep lint and dirt right out of the motor. Inside surfaces are smooth and hard so lint cannot lodge anywhere. Air passages are shaped for smooth air flow.

*Quick-Clean* motors also save you money with sealed bearings which eliminate usual expensive bearing maintenance procedures. Grease or oil cannot leak from the bearings to soil materials or gather lint and dirt. Lint and dirt cannot enter the bearing. Ask your nearest Allis-Chalmers Sales Office about the *Quick-Clean* textile motor. Or write for Bulletin 51B6055. Allis-Chalmers, Milwaukee 1, Wis.

A-3970

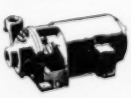
Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

**Sold . . .**
**Applied . . .**
**Serviced . . .**

by Allis-Chalmers Authorized Dealers, Certified Service Shops and Sales Offices throughout the country.

**CONTROL** — Manual, magnetic and combination starters; push button stations and components for complete control systems.

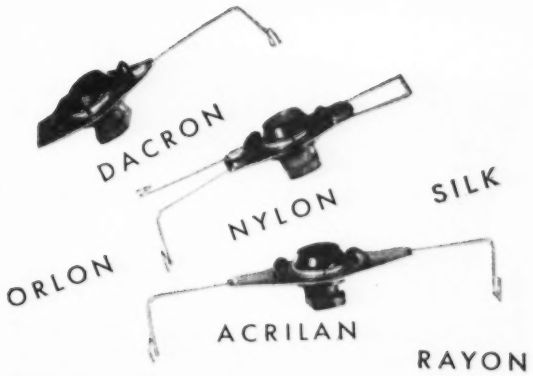
***TEXROPE*** V-belts in all sizes and sections, standard and *Vari-Pitch* sheaves, speed changers.



**PUMPS** — Integral motor and coupled types from ¾ in. to 72 in. discharge and up.

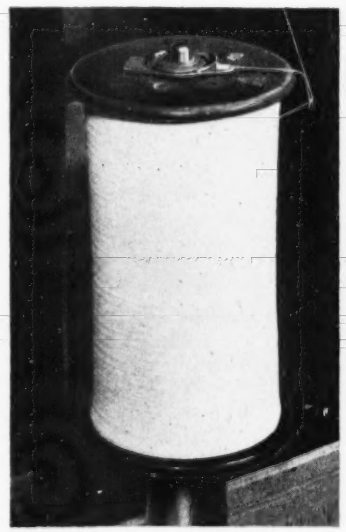
# ALLIS-CHALMERS

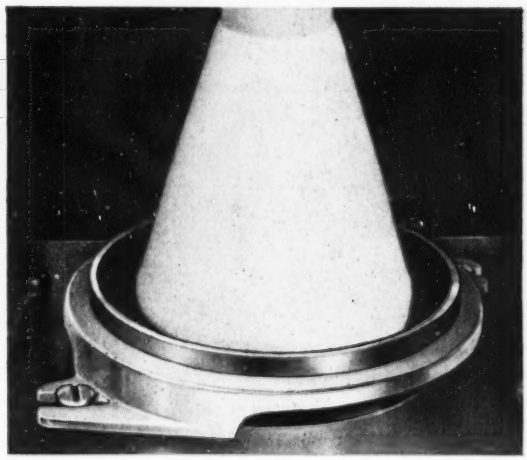
# Do You SPIN or TWIST




## Here's Real Help

- **HERR FLYERS** – producing light tensions at high speeds
- **HERR CONICAL RINGS** – to obtain cleaner, heavier doffs, smoother yarn



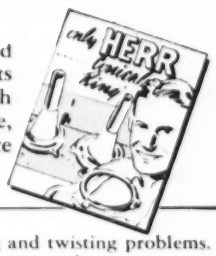


## See Us

**BOOTH 96B**
**KNITTING ARTS EXHIBITION**
**ATLANTIC CITY**

● See the full line of lightweight bobtail flyers that can take care of nylon and high crepe yarns in a way to produce light tensions at high speeds. HERR flyers are perfectly balanced for accurate yarn control and reduced vibration. Let us show you how HERR can increase the efficiency of your mill.

● If you spin or twist textile fibers, you'll want to find out about HERR Conical Rings at the Knitting Arts Exhibition at Atlantic City from April 27th through May 1st. HERR Conical Rings stop yarn breakage, permit heavier doffs, keep yarns cleaner and produce smoother yarn.




*Ask for help on your problem.*

Let HERR help solve your spinning and twisting problems. We'll show you how to adapt your equipment to any textile fiber or blend with HERR Conical Rings and Flyers. Write today!

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....

# HERR MANUFACTURING CO., INC.

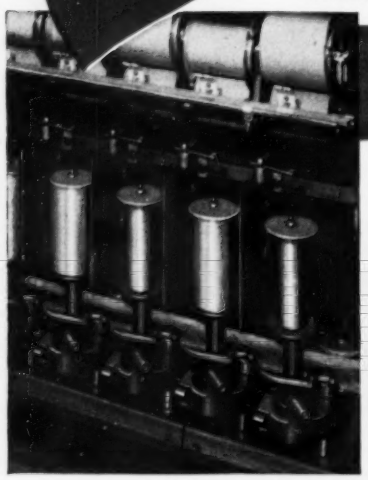
**310 FRANKLIN STREET, BUFFALO 2, NEW YORK**

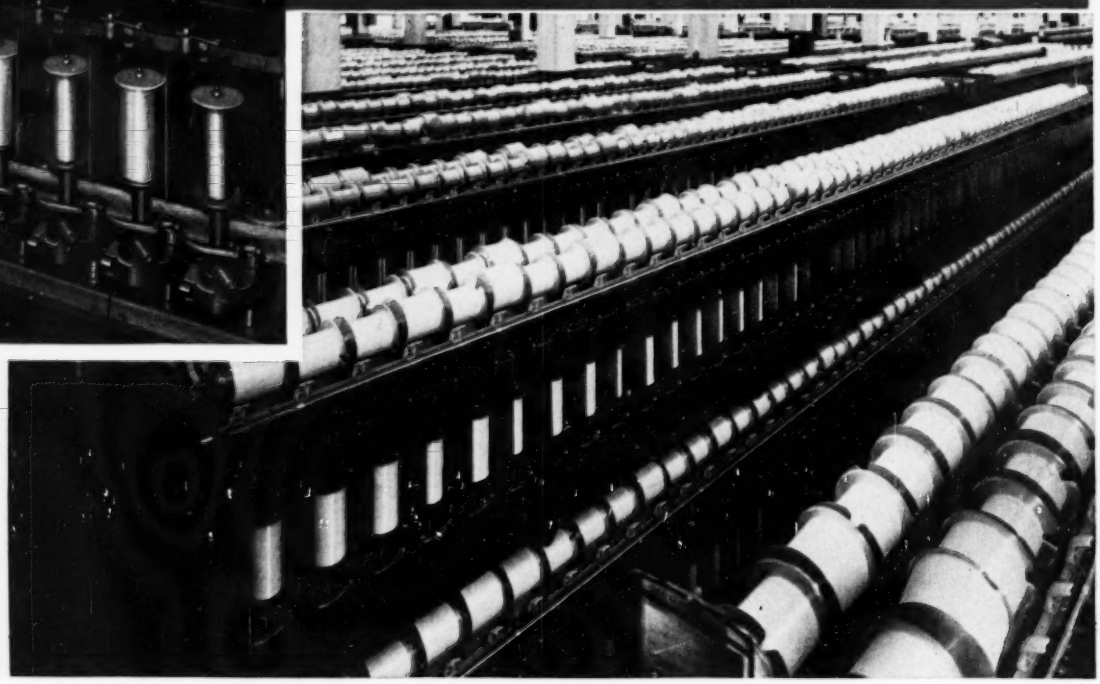
**FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON AND BLENDED YARNS OF ALL TYPES**

# Marquette ROLLER BEARING SPINDLES

with *full-floating footstep bearing*

for all textiles COTTON • RAYON • NYLON WOOL • WORSTED





Here is another large and important mill that has adopted Marquette Roller Bearing Spindles as original equipment for new frames and as replacements on old frames. Strictly on the basis of *outstanding performance* over a period of years, this mill now has 50,640 Marquette Spindles in operation . . . producing large packages of highest quality yarn . . . at higher speeds than before . . . with no increase in power consumption.

Result: *More yarn at lower cost.*

You too can enjoy the advantages of Marquette Spindles. We'll be glad to prove this through a test installation in your mill. Contact our home office or one of our representatives.

PROTECTED BY U.S. AND FOREIGN PATENTS AND PATENTS PENDING

**The Marquette METAL PRODUCTS COMPANY**

CLEVELAND 10, OHIO • SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

*Also Manufacturers of:* HYDRAULIC GOVERNORS • FUEL OIL PUMPS • PRECISION PARTS AND ASSEMBLIES
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • FUEL OIL INJECTORS

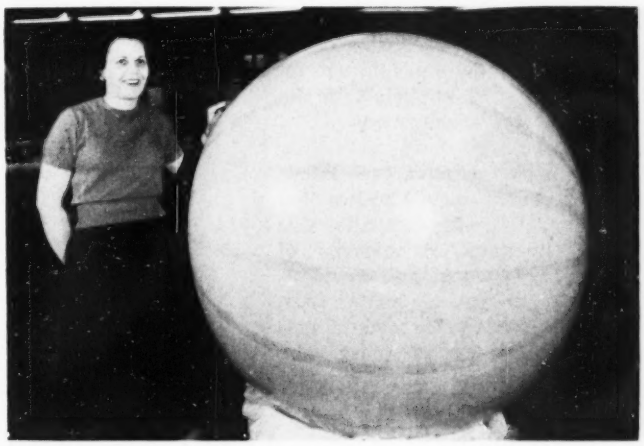
# News in Brief

**Hosiery Sales Record.** The hosiery industry attained an all-time sales record in 1952, with sales totaling 165 million dozen pairs shared by every category, including full-fashioned nylons, infants' socks, seamless nylons, etc. The increase equals about 12 million units or 144 million pairs above 1951 and 4 million dozen pairs above 1950, the previous record year. Profit is another story.

**New Fibers Building Blocks or Stumbling Blocks?** Production of new fibers is growing faster than the ability of the textile industry to develop satisfactory uses, Marvin Cross, president, Greenwood Mills, Inc., told 800 members and guests of the American Association of Textile Technologists attending a "New Textile Horizons Through Technology" meeting in New York. Mr. Cross urged resistence to "gimmicks" in the application of these new fibers. Suggested solution is to use only when the fiber yields an added virtue in the final fabric. Alternative is to suffer consumer defections. Merit and value are the keys to future business with fibers of higher cost, he asserted.

**Decline in Labor Force.** In 1950 there were 5 million men 20 to 24 years of age in the labor pool. In 1955, the number in that age bracket will be 4.75 million. In this decade a 28% increase in those 65 years of age and over is noted in The York Report.

**Mary Brown — Textile Employee.** A pamphlet describing the life of a typical Burlington Mills employee, Mary Brown of the Lexington plant, will be distributed in England and Europe by the U. S. State Department. The pamphlet will compare the American standard of living with that which now exists abroad. A weaver at Lexington, Mary Brown is efficient in her work and has an enviable record for perfect attendance on the job.



## Fabric Sphere for Rocket Delivery

Research engineers at Goodyear Tire & Rubber Company have designed a sphere for use in measuring atmospheric conditions and long range communications. The sphere can be carried through space in a rocket for a distance of about 80 miles. During flight, the sphere is carried near the nose of the rocket. As it reaches the peak of its flight, an electronic impulse blasts the cone portion of the rocket away. This automatically releases the sphere, which is inflated by a cylinder pressurized within the sphere.

A recent change in make-up of the sphere involves two-ply nylon fabric processed with a nylon coating which takes the place of impregnated neoprene. The sphere is only fifteen thousandths of an inch thick. An order has been received by Goodyear for additional spheres of this new variety.

**Research on Researchers Needed.** How to keep long range research projects from expiring suddenly due to loss of key personnel is a problem now confronting an industry-wide research organization. Several leading members of research groups employed by the organization have left or have announced their in-

tentions of leaving in pursuit of other interests. Since these individuals have matured with their assignments, they will be taking with them a comprehensive viewpoint necessary for completion of the project—something that will be long in replacing. In some instances, no understudies are available as replacements. One solution is thought to be the hiring of research personnel by contract for the duration of a project or for definite term employment.

**Cotton Preferred in Five Items.** A government survey shows that homemakers prefer cotton for five household items. A majority of homemakers want their curtains, draperies, slipcovers, scatter rugs, and bedspreads to be made of cotton. A majority of those who chose cotton gave laundering and cleaning properties as the reason for the choice.

*Robert and Company Associates*

## Pepperell's New Alabama Sheet Factory

Pictured here is an architect's conception of Pepperell Manufacturing Company's new Abbeville, Ala., sheet factory.

As soon as the building is completed, the sheet and pillow case sewing operations now being carried out on the second floor of the Pepperell, Ala., finishing plant will be transferred to Abbeville, thereby releasing space to permit more efficient handling of work in the bleachery and finishing division.

**Textiles at the Coronation.** Rayon is to be represented at the coronation of Queen Elizabeth II in the evening gowns worn by peeresses beneath their robes or in the afternoon dresses to be worn by women who will sit in the body of the Abbey— not in the place where the actual coronation will occur. The new crimson robes to be worn by peeresses, whether made on traditional lines or the new austerity model, will not contain rayon; the fabric decided upon is to be a mixture of cotton and silk for the former and the finest cotton velveteen for the latter.

**U. S. Wool Textiles Active.** Consumption of raw wool in the United States increased slightly in the third quarter of 1952 and was actually higher than in the same period last year. Weekly average consumption was 10.3 million pounds in September compared to only 8 million pounds in September, 1951.

**Testing Refresher Course.** The United States Testing Co., Inc. has announced the 16th Summer Refresher Course in Textiles and Testing Techniques. The course will be conducted during the second half of the Teachers' College Summer Session, Columbia University, July 27 to August 14, and will be held at the U. S. Testing Company's main laboratories in Hoboken, N. J.

**British Textile Show in Manchester.** The "Textile Recorder" International Exhibition of Textile Machinery and Accessories will be held in Belle Vue, Manchester, from October 14-24, 1953. Interest already shown by textile machinists indicates that the show will break the records established in 1949, according to the sponsors.

**Photoprint Process Offered.** A direct contact fabric photoprint process is currently available to the apparel fabric trades by Photo Print Fabrics, Inc., West Petersborough, N. H. The process can reproduce any texture and three-dimensional effect on all fabrics, with the exception of wool, in a continuous-tone print, according to an announcement.

**Infra-Sonics Stabilize Fabrics.** The Hatay textile stabilization process utilizes infra-sonic impacts to control residual shrinkage in fabrics to acceptable commercial standards and effects economy in processing and equipment. The process evolved from fundamental studies in England and applied research in the United States during the past several years by Charles G. Hatay of Beverley Farms, Mass. Arthur D. Little, Inc., Cambridge, Mass., has been associated in development of the process.

**Tests for Tricot Needed.** Committee D-13 of the American Society for Testing Materials has plans to formulate standards and test methods for tricot fabrics, according to H. W. Whitcomb, committee secretary.

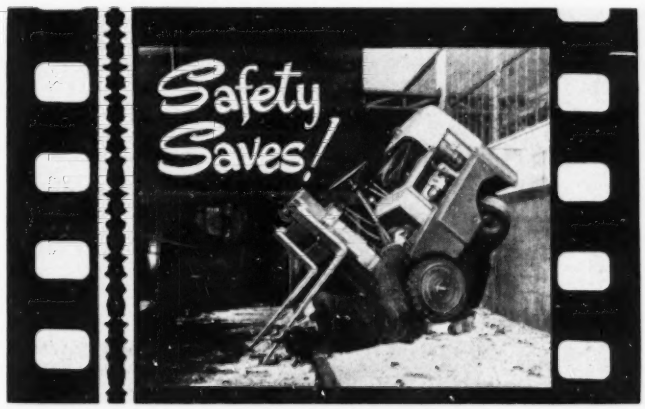
**QMA Convention.** The 1953 convention of the Quartermaster Association will be held at the Lord Baltimore Hotel in Baltimore on

October 1-2, according to Washington headquarters.

**Machinery Association Officers.** Officers and directors of the American Textile Machinery Association were elected at the annual meeting held in Boston. Elected were: F. W. Howe, Jr., Crompton & Knowles, president; W. F. Lowell, Saco-Lowell, vice-president; J. E. Hollis, Crompton & Knowles, secretary; S. F. Rockwell, Davis & Furber, treasurer. The directors were all re-elected.

**Unfilled Orders Increased.** Unfilled orders for carded yarn showed a net increase of nearly two million pounds during the month of January, according to the Textile Information Service. Spinners' backlogs of unfilled orders as of January 31 were equal to 8.71 weeks' production and were 9.05 times the stocks on hand.

**Nylon for Shirts.** A development in nylon shirtings for men is a stabilized stitch fabric made by the Meltzer Textile Corporation in a combination of 40-denier and 70-denier nylon. The stitch construction, developed as a result of modern tricot technique, makes possible a fabric particularly suitable for men's shirts. The fabric is firm, flexible, combines good porosity with good coverage, and is said to be comfortable for either summer or winter wear.




## Industrial Truck Driver Training and Safety Movie

A new training and safety film for industrial truck operators has been produced by the Clark Equipment Company. The 30-minute sound movie, titled "Safety Saves," was filmed at on-the-job factory and warehouse locations. It illustrates the "do's and don'ts" of safe driving, and shows the causes of most truck accidents and how to avoid them. For truck owners who want to reduce accidents and cut damage to goods, the new movie should prove to be a valuable training tool.

The "villain" of "Safety Saves" is Willie the Cowboy, a lad who drives his fork truck like a hot-rod. Willie is the kind of driver who doesn't look where he's going, ignores overhead clearance, and parks his truck in the middle of busy aisles. In other words, Willie is a menace—to fellow employees, to the goods he's handling, and to himself. The narrator of the film patiently tries to teach Willie the error of his ways, and he nearly succeeds. But unfortunately, before Willie finally learns his lesson, he makes one mistake too many. Poor Willie is carried away from the last scene on a stretcher. The wonder of it is how he lasted as long as he did.

Along with these examples of how not to handle a fork truck, the movie shows the safe, correct method. Besides fork truck operation, "Safety Saves" contains instructions for operators of towing tractors and hand trucks.

"Safety Saves" is available on a loan basis. For a reservation form, write the Clark Equipment Company, Industrial Truck Division, Battle Creek, Michigan.

## News in Brief

**Wool in 65% of Blankets.** More than 36 million bed and camp blankets were produced in 1951, and 65% of these were all-wool or contained wool, according to a report from The Wool Bureau, Inc. 28% of 1951 production was in all-wool blankets, the report stated.

**AATCC Handbook on Math.** The Publications Committee of the AATCC has announced that a pocket handbook, "Dyehouse Mathematics," is now at the printers, and distribution of the book should begin soon.

**Full-Fashioned Follies.** 7,000 Wyomissing Industries textilians and their families traveled from Reading to Hershey, Pennsylvania, for a special performance of the Ice Follies. This is the first time that any industry has bought out the entire Hershey arena.

**Gurney Wins Trophy Again.** The 12th Alabama Statewide Textile Safety Contest ended December 31, 1952, and an official announcement shows that Gurney Manufacturing Co. won the Comer Textile Safety Trophy for 1952, 1951, and 1950. Gurney is the first mill in the twelve-year history of the annual statewide textile safety contest to gain permanent possession of the Comer Safety Trophy by winning three consecutive years.

**Stockpile of Plastics Proposed.** The Civil Defense Administration has requested all producers of plastic coatings and films to supply information on productive capacity of 4-gauge clear polyvinyl-

**What are you doing to**

# Reduce Waste?

Even if a mill does not maintain its equipment or purchase modern machinery, the mill still pays for these things.

You are paying for the waste in your plant. Some waste is necessary, but excessive waste is a complete loss. You will continue to pay for excessive waste until it is reduced.

We specialize in reducing and controlling waste in the textile industry—whether the mill is running natural or synthetic fiber.

Don't pay us for our service. Only share with us what we save you.

**Southeastern Engineering Co.**
**West Point, Ga.**

SERVING THE TEXTILE INDUSTRY SINCE 1899

# SONOCO

Precision Paper Products

*Knitting Arts Exhibition*

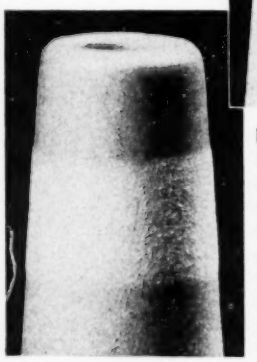
Atlantic City
April 27-May 1,
1953
Booth 373-374

## . . . A RIGHT CONE— A RIGHT SURFACE—

## FOR EVERY TYPE YARN!

ABOVE—Sonoco's 3°51′ Cone, developed to increase package size in winding synthetic yarns. Note lacquer tip for identification, which is available on all Sonoco cones.

There is no guesswork involved when a customer asks Sonoco for a cone and cone surface recommendation. Throughout the years, Sonoco has conducted unending research and experiment. The result of this effort has brought industry-wide benefits, for now it is possible to determine the right cone and surface for specific yarns. It is a service that has enabled Sonoco to become known as a "dependable source of supply".



In addition to high and low mark paper and scoring, Sonoco offers the famous Velvet Surface (above) that prevents slippage of filament yarns or fine count cotton yarns. Also available is Sonoco's Unitex Surface (left)—perfect for winding silk, rayon, nylon and other filament yarns. Can be supplied solid-surfaced or banded.

sonoco
AROUND THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.

## SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, S. C.

MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT.
PHILADELPHIA, PA. GARWOOD, N. J. LOWELL, MASS. GRANBY, QUE.

DEPENDABLE SOURCE OF SUPPLY

chloride film and normal inventories of all vinyl film 3 to 10 gauge, regardless of color, width, or embossing. A minimum of 86,000,000 square yards of plastics will be required for emergency covering of hospital and aid station windows in the event of a mass raid on average-sized cities across the nation. Civil Defense proposed to stockpile only as much of the material as cannot be supplied from normal industry inventories.

**Glow Girls.** Phosphorescent cinema attendants are the latest thing in Parisian cinemas. The girls wear hoods and dresses which glow in the semi-darkness and are more easily seen by customers coming in from the strong outdoor light.

**U. S. Wool Imports.** The United States' share of total world wool imports jumped from 10% in 1934-38 to 29% in 1946-50. Even at the reduced rate of 1951 purchases, the U. S. share was still about one-fourth of the world total, an important part of the international market.

**Small Business Defined.** The Small Defense Plants Administration has prepared new proposed standards for distinguishing small manufacturing concerns. A statement issued by the SDPA is, in part, as follows: "To begin with, we have narrowed the problem down somewhat by setting absolute lower and absolute upper limits of size. Accordingly, all manufacturing concerns employing no more than 100 persons will be considered small regardless of the industry in which they do business; similarly, concerns employing more than 2,500 workers cannot ordinarily be regarded as small, at least in the sense of requiring special consideration under government programs."

**Canadian Group Gets Charter.** The Textile Technical Federation of Canada has announced receipt of a charter under the Dominion Companies Act and has prepared plans for increased activity in the future. A major project of the Federation is sponsorship of the Canadian Textile Seminar, which is held every two years.

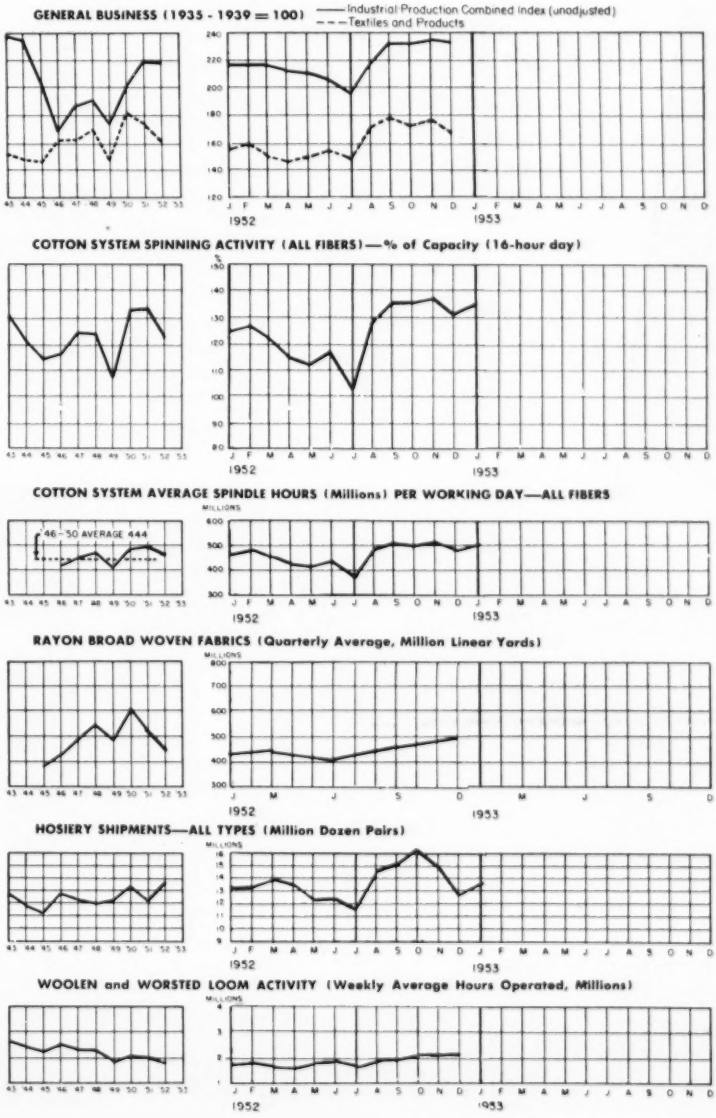
**Hosiery Association Member Certificates.** The National Association of Hosiery Manufacturers has issued, for the first time, certificates of membership in the Association. The Board of Directors of the Association decided that some tangible recognition of the Association's leadership in the industry should be made.

## News in Brief

**Armored Shorts for Troops.** Plans are underway to supply armored shorts to go with armored vests now used by troops in Korea. The new shorts weigh only four pounds, and they are worn over regular combat trousers.

## Textile Industry Activity Charts

**Source of information:** Bureau of the Census, U. S. Department of Commerce; National Association of Hosiery Manufacturers.


GENERAL BUSINESS (1935 - 1939 = 100)
Industrial Production Combined Index (unadjusted)
Textiles and Products
COTTON SYSTEM SPINNING ACTIVITY (ALL FIBERS)—% of Capacity (16-hour day)
COTTON SYSTEM AVERAGE SPINDLE HOURS (Millions) PER WORKING DAY—ALL FIBERS
46-50 AVERAGE 444
RAYON BROAD WOVEN FABRICS (Quarterly Average, Million Linear Yards)
HOSIERY SHIPMENTS—ALL TYPES (Million Dozen Pairs)
WOOLEN and WORSTED LOOM ACTIVITY (Weekly Average Hours Operated, Millions)
1952
1953

# MILL OPERATING REPORT
## ON CLEANING COTTON WITH AIR
## # 1

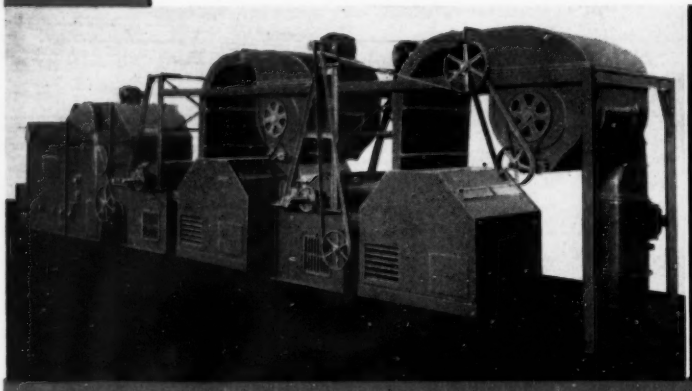
To compare conventional cleaning machinery with Super-Jet cleaning, some strict low middling cotton containing 4.5% trash as shown by a Shirley Analyzer was put through a vertical opener and a Buckley opener, after which, 3.3% trash remained in the cotton.

This cotton was then put through a Tandem Super-Jet System, and only 1.6% remained in the stock.

The Super-Jet System therefore removed 41.7% more trash than the conventional machines, and took it out after those machines had partially cleaned this cotton.

Furthermore, the waste from the conventional machines contained 34% fiber, 6% of which was of staple length; while the Super-Jet waste contained 15% fiber, 0.9% of which was staple length.

If you would like to visit a mill where results comparable to these are being obtained, we will gladly arrange it for you.



**TANDEM**
***Super-Jet***
**CLEANS ENTIRELY WITH AIR**

# ALDRICH-LUMMUS CLEANING SYSTEM

*Made by* LUMMUS COTTON GIN CO. Columbus, Ga. and ALDRICH MACHINE WORKS Greenwood, S. C.

*Sold and Installed by* AldricH MachinE Greenwood WorkS South Carolina

# AN EXECUTIVE Views

## THE NEWS IN TEXTILES

*Prepared by a man who is closely identified with the textile industry.*

## Wake of the Dollar Minimum

PERHAPS by the time this appears in print the situation will have changed drastically, but, in the light of events of the past few weeks, we cannot help but wonder what our old friend, Maurice J. Tobin, might be thinking as he views the Walsh-Healey fiasco from his Massachusetts veranda.

A couple of months ago we told you that it appeared likely that when Mr. Tobin issued his $1.00 minimum the American Cotton Manufacturers Institute would initiate proceedings leading toward an injunction to prevent the Secretary of Labor from putting into effect the new wage rate. Attorneys for the Institute advised the organization that it did not have any standing in court, since it was not "an aggrieved party" and that any suit which might be instituted would have to be brought in the names of mill companies.

Subsequently a very large group of mills, scattered geographically from Massachusetts to Texas, filed a complaint in the United States District Court for the District of Columbia in which they alleged that the Secretary of Labor had acted illegally in establishing a nationwide minimum for certain branches of the cotton, synthetics, and silk branches of the textile industry, when, in their opinion, the Act very clearly called for the establishment of a rate for each "locality" in the industry.

You are probably familiar with the fact that Judge Henry A. Schweinhaut, after hearing oral arguments in the case, granted a temporary injunction which had the effect of staying the effective date of the increase for those mills which were plaintiffs in the action. He also stipulated that if the plaintiffs desired to take a government contract after the February 21 deadline that they would have to post a $2000 bond, with this sum later to be used to reimburse sub-minimum employees in the event his decision was reversed by another court.

### 14-Year Violation

The significant part about the action of the District Court was not the granting of the temporary injunction, because those who had followed the case expected that to be the outcome. The significant phase was the language used by the Judge in granting the stay. According to the press, Judge Schweinhaut emphatically stated that it was his opinion, his "curbstone opinion," that for some fourteen years the Secretary of Labor had been violating the law, and had been determining nation-wide minimums illegally.

Government attorneys argued that although the pertinent section of the statute contained the word "locality" the position of the commas in the sentence changed its meaning to such an extent that the Secretary was authorized to set a national minimum. Judge Schweinhaut exploded this punctuation myth by asking why, then, Congress had not said simply that the minimum was to be determined on a national basis.

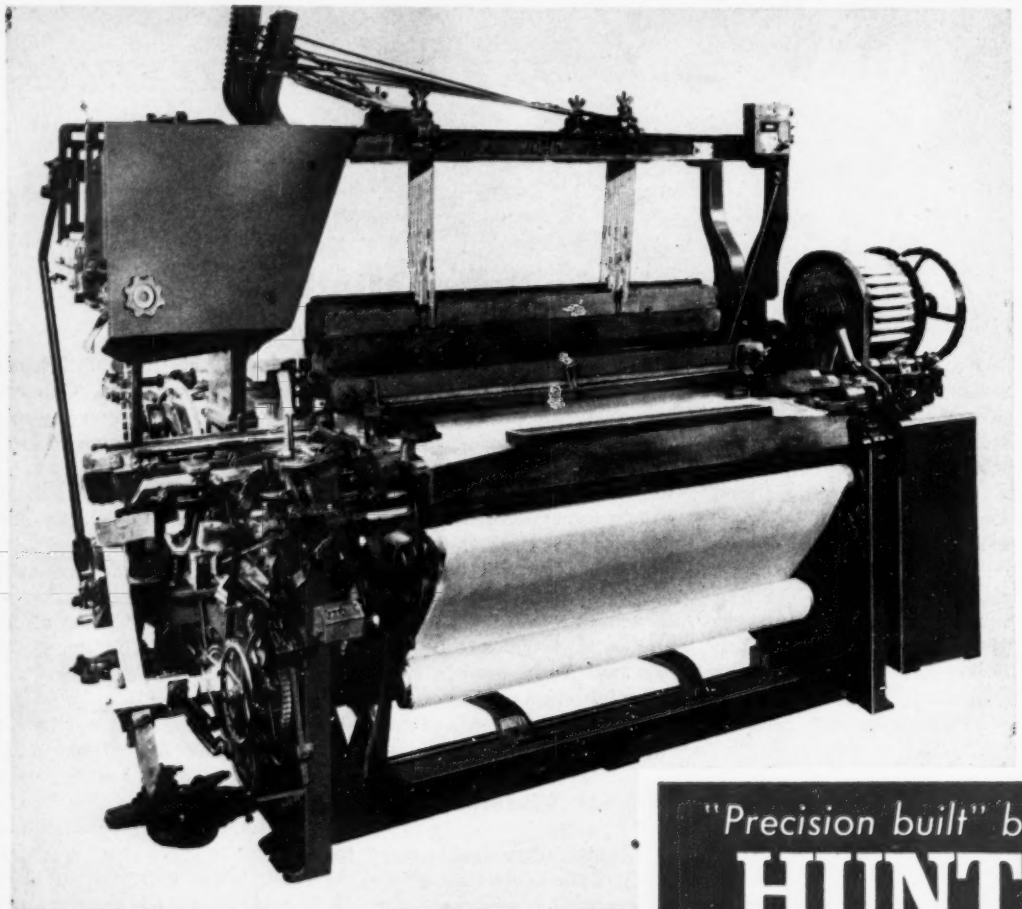
In short, why go to the trouble of composing a lengthy and complex sentence sprinkled with commas and other miscellaneous punctuation, and including the word "locality," when all you had to say was, "The Secretary shall determine minimum rates on a national basis"?

But we started out by wondering what Mr. Tobin might be thinking of the shambles he has left in his wake. At this writing, mills which are plaintiffs to the action against the Secretary and which are willing to put up a $2000 bond, can bid on a government contract without paying the $1.00 minimum. Mills which are not plaintiffs must either pay the $1.00 or stay out of contract work.

There are also a number of confusing situations brought about by the fact that substitute manufacturers, mills which supply yarn to other mills which have government contracts, frequently have wage rates which are below those of integrated mills requiring higher skills, and they have problems peculiar to that situation.

We wonder if Mr. Tobin is chagrined that his kettle of codfish has been overturned. On the other hand, perhaps he is somewhat gleeful about the whole matter because, while he pushed the button that released the flood, the waves are now lapping about the

# Here's the NEW HR 50 LOOM



"Precision built" by

# HUNT

## for better, faster Rayon weaving

A new Hi-Speed Rayon Filament Loom designed and "precision-built" by Hunt to meet the industry's need for increasing production of Rayon and other synthetics.

Thousands saw this new loom in high speed operation, weaving Fiberglas at the 17th Southern Textile Exposition, Textile Hall, Greenville, South Carolina, October 6 - 11, and also, at the Hunt plant weaving filament rayon.

Hunt "precision-built" looms and loom parts are manufactured right in the heart of the Southern Textile Industry. Hunt's experienced engineers are available any time to come to your plant for a production-line discussion of your weaving problems.

***Call, Write or Wire***

## HUNT LOOM & MACHINE WORKS, INC.

**200 ACADEMY STREET • GREENVILLE, SOUTH CAROLINA**

Manufacturers of: LOOMS • MOTOR DRIVES • SPREADERS • SIZE PUMPS
HYDRAULIC CRANKSHAFT PRESS • LOOM PARTS

***Outstanding features of this New HR 50 Loom***

- **Heavier loom sides add the necessary weight to permit operation at high speed.**
- **Vibration is reduced to a minimum.**
- **Weaves cloth up to 66" wide.**
- **Equipped with Hunt Spreader, Individual Motor Drive, Low Roll Take-Up, Bartlett let-off, Center Filling Fork; 6-Bank Electric Stop Motion and Adjustable Loom Beams.**

feet of a Republican Administration.

In considering this situation, it should be kept in mind that this is a question that holds more than passing interest for industries outside of textiles. There are currently outstanding some forty minimum wage determinations for various industries in the country, all of which are on a national or regional basis, and as a matter of fact only two or three of them are even on a regional basis. Thus, it can be seen that any court decision which rules that the Secretary must make such determinations on a local basis can have far-reaching repercussions throughout all American industries. Perhaps Mr. Tobin is enjoying himself.

## They Ride On Rayon

Cotton manufacturers are not happy over the fact that the situation regarding tire cord, like that regarding Walsh-Healey, is chaotic. At one time as much as 950,000 bales of cotton were going each year into mills which manufactured cotton tire cord. The significance of this figure can be estimated by the fact that this year American mills will consume something like 9,500,000 bales of cotton. Therefore, the peak cotton consumption for tire cord was something like 10% of our current total cotton consumption.

Sitting on the sidelines cheering are the manufacturers of filament rayon. Estimates indicate that something like 300,000,000 pounds of high tenacity filament rayon are now going into tire cord in place of the cotton cord upon which America once traveled. It has been pointed out that this is one of the most decisive victories yet won by synthetics over cotton. It has also been pointed out that this major invasion of the industrial market by synthetics may constitute the spearhead of a concerted and sustained attack.

From all the evidence at hand, it appears that the time has now come when we should save any old automobile tires we may have which are made from cotton tire cord because they may become valuable as collectors' items. Who knows?

## Pre-Hearing Elections

Last month, in this space, we mentioned some of the things that we thought should be retained in the Taft-Hartley law. We pointed out that hearings were being held in Washington in the House and the Senate to consider revising the Act, and we felt rather strongly that certainly some things

*(Continued on page 243)*

**April 9-11—Annual convention, Alabama Cotton Manufacturers Association,** Buena Vista Hotel, Biloxi, Miss.

**April 10—** Spring meeting, The **Textile Quality Control Association,** Clemson, S. C.

**April 18—Spring meeting, Textile Operating Executives of Georgia,** A. French Textile School, Georgia Institute of Technology, Atlanta, Ga. Topics to be discussed: carding and spinning.

**April 20-24—National Packaging Exposition,** Navy Pier, Chicago, Ill.

**April 21-22—35th annual convention, National Knitted Outerwear Association,** Waldorf Astoria Hotel, New York, N. Y.

**April 22-23—Spring meeting, The Fiber Society,** New Orleans, La.

**April 23-24—Textile Electrical Conference,** A. French Textile School, Georgia Institute of Technology, Atlanta, Ga. Sponsored by Textile Sub-Section, American Institute of Electrical Engineers.

**April 23-25—Annual convention, Cotton Manufacturers Association of Georgia,** Boca Raton Hotel and Club, Boca Raton, Fla.

**April 27—Annual meeting, Underwear Institute,** Chalfonte-Haddon Hall, Atlantic City, N. J.

**April 27-28—Annual convention and conference, National Association of Hosiery Manufacturers, Claridge Hotel, Atlantic City, N. J.**

**April 27-May 1—Knitting Arts Exhibition, Auditorium, Atlantic City, N. J.**

**May 1—New England Textile Electrical Conference,** Sheraton Plaza Hotel, Boston, Mass.

**May 7-9—50th anniversary convention, Phi Psi Textile Fraternity,** Penn-Sheraton Hotel, Philadelphia, Pa. Hosts: Philadelphia Textile Institute and Philadelphia Alumni Chapter.

**May 18-22—Materials Handling Exposition,** Convention Hall, Philadelphia, Pa.

**May 25-30—Annual conference, Textile Institute,** Llandudno, North Wales.

**May 27-29—Meeting, American Society for Quality Control,** Textile Div., Convention Hall, Philadelphia Pa.

**May 28-30—Annual convention, South Carolina Textile Manufacturers Association,** The Cloister, Sea Island, Ga.

**June 15-19—Exposition of Basic Materials for Industry,** Grand Central Palace, New York, N. Y.

**June 18-19—Chattanooga Yarn Association** annual outing, Lookout Mountain Hotel, Chattanooga, Tenn.

**June 18-20—Annual meeting, Southern Textile Association,** Mayview Manor, Blowing Rock, N. C.

**June 29-July 3—Annual meeting, American Society for Testing Materials,** Atlantic City, N. J.

**July 27-31—International Exposition of Fabrics, Fibers, Finishes, and Yarns,** Waldorf Astoria Hotel, New York City.

**Sept. 10-11—Fall meeting, The Fiber Society,** Lowell, Mass.

**Sept. 17-19—Annual national convention, American Association of Textile Chemists and Colorists,** Conrad Hilton Hotel, Chicago, Ill.

**Oct. 1-2—Annual convention, Quartermaster Association,** Lord Baltimore Hotel, Baltimore, Md.

**Oct. 15-16—47th annual meeting North Carolina Textile Manufacturers' Association,** Carolina Hotel, Pinehurst, N. C.

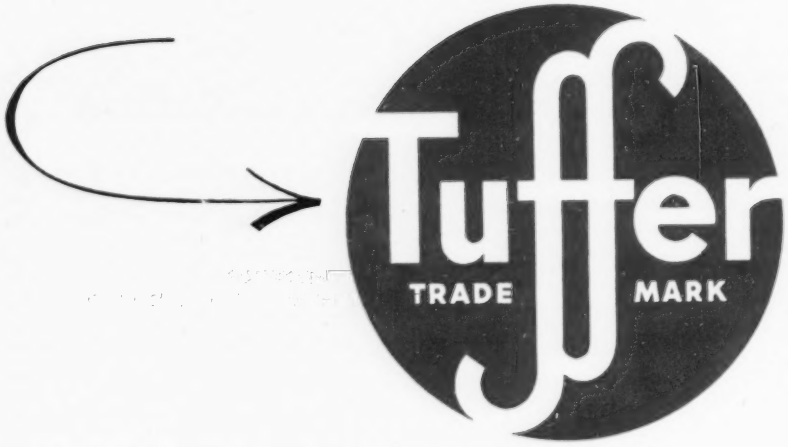
### 1954

**April 26-30—American Textile Machinery Exhibition** (sponsored by American Textile Machinery Association), Atlantic City (N. J.) Auditorium.

**Oct. 4-9—18th Southern Textile Exposition,** Textile Hall, Greenville, S. C.

# for better carding

## specify




## CARD CLOTHING

Good yarns largely depend on the quality of the stock to be carded. Good carding depends on quality Card Clothing.

Eighty-seven years ago soft iron wire and leather foundation were the two basic items used in Card Clothing manufacture. Today specialized hardened and tempered steel wire set with our Tufferizing Process in specially prepared foundations gives you the widest choice and unparalleled quality.

Yes, today Tuffer Card Clothing gives you that *better carding* you have a right to expect.

**TUFFER PRODUCTS**

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Top Flat Chains

# HOWARD BROS.

A-3

WORCESTER 8, MASSACHUSETTS

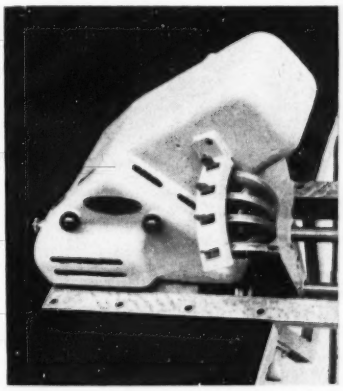
**Southern Plants:** Atlanta, Ga. and Gastonia, N. C.
**Branch:** Philadelphia, Pa. *Direct Representation in Canada*

# NEW Equipment AND MATERIALS

## Device Automatically Marks Defects in Finished Fabrics

Much time can be saved when inspecting fabrics that are not required to undergo another finishing process by the use of a device now available which automatically marks defects while the inspection machine is running.

When a weaving, dyeing, printing, etc., defect is detected by the inspector, she presses a button on the apparatus which in turn automatically attaches a colored string to the selvage to denote the location of the fault. The string is bonded rather than tied onto the fabric and thus does not spoil the selvage. Two feeds are provided so that strings of two different colors may be used.



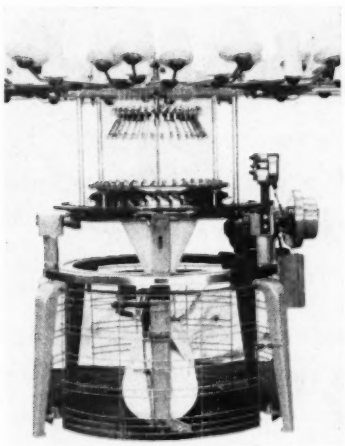
**Close-up of fault marking device on inspection machine (Stellite).**

The fault marking device (manufactured by Johannes Menschner Textilemaschunenfabrik, Duelken, Germany, and marketed in the United States) is adaptable to inspection machines running fabric which is to be plaited or rolled ready for sale. Speed of the inspection unit must not exceed 12 yards per minute when attaching the strings, so it is advisable for the machine to be equipped with a stepless speed regulator for this purpose.

*Stellite American Corp., 60 East 42nd St., New York 17, N. Y.*

For additional data, request item D-601, using Handy Return Card on page 214.

## High-Production Knitter for Overcoat Material and Fleece Linings



For the production of knit overcoat material and fleece linings, a completely new machine is available. Called Model FLEECE, Style RSF, it is built in 26-inch diameter, with 36 feeds, having revolving cylinder and stationary bobbins.

Because the machine is designed to handle yarn packages as great as six-pound capacity, and the yarn stand permits tying one cone to the other, there is a very marked production advantage.

The machine is manufactured in cuts varying from 8 to 18, and it is supplied with design wheels and manual tuck bars on all feeds.

*H. Brinton Co., Kensington Ave. and M St., Philadelphia 24, Pa.*

For additional data, request item D-602, using Handy Return Card on page 214.

## Opener Utilizes Principles of Shirley Analyzer

A cotton opener that will clean stock as effectively as if it were processed through four conventional beaters has been developed, according to a joint announcement by the British Cotton Industry Research Association, the Shirley Institute, and Tweedales & Smalley (1920) Limited (the machinery manufacturer that will produce the machine).

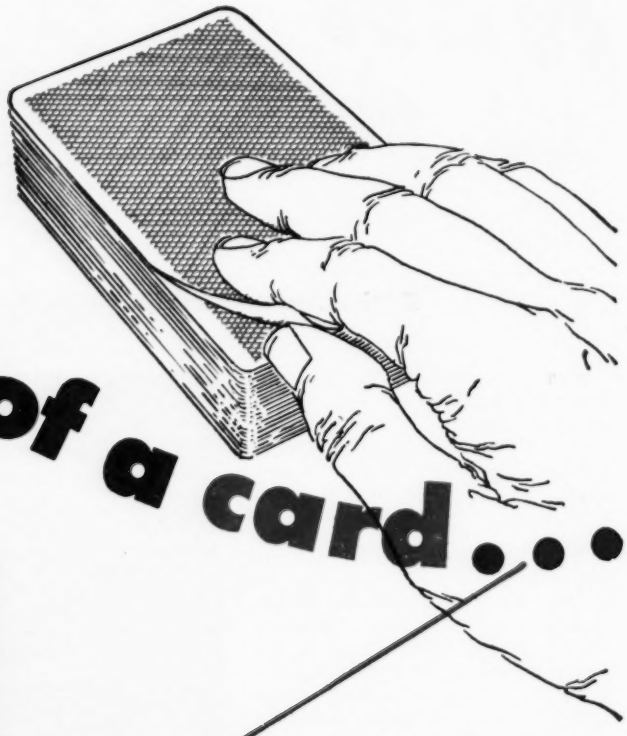
Designs of the production model of the machine which is designated the Shirley Opener are completed, and the first units will be available within the next few months. It is related to the Shirley Analyzer and is, in fact, a development of the principles of this machine.

Mill trials in which cotton and cotton waste were processed have shown:

(1) A short sequence of machines utilizing the Shirley Opener is as effective in cleaning as, and more effective in opening than, a much longer line of conventional machinery; to obtain a higher degree of cleaning, the machine can also be added to an existing opening line.

(2) No more maintenance and attention required than for conventional machines.

(3) It is not sensitive to changes



# the turn of a card . . .

## Can Make a BIG Difference in Your PROFITS

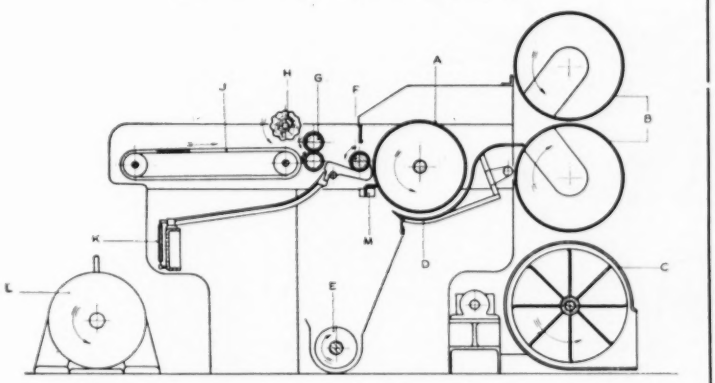
So, naturally, you back up your cards with the best!

Jenkins precision-built card screens allow the extra-close settings to card cylinders that result in *royal* gains for you . . . higher production . . . cleaner, more even carding . . . and more spinnable cotton saved.

*Draw* on the engineered uniformity of Jenkins card screens for sure steady profits. A letter, wire or phone call will place a Jenkins representative at your service.

**JENKINS METAL SHOPS, Inc.**
**GASTONIA, NORTH CAROLINA**

**How the Shirley Opener Operates**




The machine utilizes a licker-in type of beater (A), approximately 15" diameter, covered with a special design of sawtooth wire. The usual grid bars below the cylinder are replaced by a plain adjustable sheet (D). The cover above the beater is of special design so as to eliminate the regions of high air pressure and to permit stripping of the beater without the use of a stripping edge.

Cotton passes along the lattice (J), through compression rollers (G), to a pedal feed arrangement (F). The beater virtually combs the cotton from the feed in individual fibers or very small tufts, and so aims at a complete dispersal of trash and lint. The mixture of trash and lint passes downwards, close to the beater, and continues in this manner past the deflector plate (M).

After this point, where the stream of material diverges, there is a "free space" of approximately 4½" in length, the heavier particles of trash tending to fall and the more buoyant cotton fiber to follow the air stream carried round the beater.

Following this free air space is the leading edge of the separator sheet (D). The positioning of this edge in the mixed stream of trash and cotton, enables the heavier particles of trash on the outside of the stream to be separated from the lighter material traveling nearer to the revolving beater. The droppings rejected to the bottom of the compartment are removed to the outside of the machine by means of a revolving scroll, and subsequently bagged for disposal later. The setting of this leading edge determines the quality of the droppings, and conditions may readily be adjusted to the degree of cleaning required.

The cages (B) are exhausted by the fans (C), and the suction through the cages serves to draw air in between the separation sheet and the beater, and through the gap immediately above the feed roller (F). Buoyant material is carried in the airstream up to the cages. Any small particles of fiber still adhering to the teeth of the revolving beater are effectively removed by the stripping action of the pneumatic and centrifugal forces operating in the space between the beater cover and the beater. The gap above the feed roller permits an opposing air stream to enter at this point, preventing an accumulation of cotton at the feed roller.

The relatively high speed at which the cages are revolving means that a good deal of the surface area of the cages is entirely free from cotton. This insures that the dust laden air is effectively carried away.

The very high degree of openness which is achieved makes it possible to reject a high proportion of the trash that is present, a thing which cannot occur if trash is securely imprisoned within tufts of unopened cotton. The effectiveness of the method used to segregate the trash from the lint is the outcome of a careful study of the forces involved. Control over the droppings is obtained by varying the setting of the separation edge of the boundary sheet which "skims off" a controlled amount of the loaded air stream; trash and other impurities on the outside of the air stream are rejected, and the clean, open cotton on the inside of the air stream is passed forward to the cages.

A particular point of note is the fact that cotton is not permitted to pass round the beater more than once, but is stripped pneumatically by the correct use and control of air currents. The air output from the machine is arranged so as to produce an area of low pressure above the beater, and the cover is suitably designed for this purpose. A stream of air in opposition to the air stream following round with the beater, creates the turbulence necessary to strip any remaining cotton on the beater. Cotton removed in this manner is subsequently drawn on to the upper of the two cages.

in temperature and humidity.

(4) Advantages are evident at later stages in processing—less card waste, less dirt on roller beams, card clothing life increased due to more open laps.

(5) Yarn appearance and strength do not suffer; there is no tendency to shorten fibers; Shirley Opener processing does not lead to more nep.

(6) Highly successful in processing cotton waste.

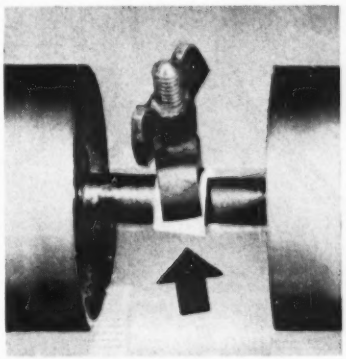
A general description of the opener appears in the accompanying box. Note that a licker-in type of beater is utilized and that cotton is not permitted to pass around the beater more than once, but is stripped pneumatically by the correct use and control of air currents.

Production rate of the machine is approximately 400 lb per hour.

*Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.*

For additional data, request item D-214, using Handy Return Card on page 214.

## NEW Equipment AND MATERIALS



**Nylon strip bearing liner is utilized on this Bradford system spinning frame pressure roll shaft (Polymer Corp.).**

### Fabricate Nylon Bearings in the Mill

"Polypenco" nylon strip is available for on-the-job fabrication of bearings that require no lubrication while maintaining a low coefficient of friction.

At one wool yarn manufacturing plant where the spinning frame pressure roll shafts were equipped with bearing liners formed from this nylon strip, yarn contamination by lubricants was eliminated and more uniform yarn produced.

No machining was needed to install these bearings. A mill maintenance man was able to do the job. He merely had to cut small sections from a roll of nylon strip .025" thick and 2" wide and insert them between the original shaft and bearings.

These bearings were installed early in 1950, and no replacement has been necessary.

*The Polymer Corporation of Pennsylvania, Reading, Pa.*

For additional data, request item D-213, using Handy Return Card on page 214.

### Finish Protects Hosiery Against Bacteria Attack

A new finish for hosiery, trade marked "Immune—The Bacteriostatic Finish," provides hosiery with a film of protection against bacteria attack. It is particularly helpful to

*(Continued on page 221)*

*"Shorts and Remnants," which formerly appeared on this page, now begins on page 4.*

**CONTROLLED STRENGTH . . .** At every point — the butt, the beard, the shank, — a Textile Spring-Beard Needle is strong. Precision manufacturing, checked by automatic and electronic controls assures that strength. From the special steel formula to final exacting inspection and careful packaging you can be sure of strength — and quality that means more even stitches and lower production costs. Check Textile Spring-Beard Needles in service — you'll see the proof.

**TEXTILE MACHINE WORKS, READING, PENNA.**

# *Textile*

# SPRING-BEARD NEEDLES

*For Full-Fashioned Knitting*
*For Tricot Knitting*

**ARROW** Latch Needles

Consolidated Textile Co., Inc.
Lynchburg, Va.

PERFECT ATTENDANCE AWARD

This Certificate is presented to

who has been faithfully on his job daily for a period of

and has thereby contributed materially to the success of his Company

DATE VICE-PRESIDENT

OVERSEER GENERAL MANAGER

**CONSOLIDATED EMPLOYEES WERE PROUD** of these certificates given in recognition of their perfect attendance records. Many were heard to say "I am going to try to get one of these every year."

# A New Approach to Absenteeism

EXCLUSIVE

***Recognition given to employees with perfect attendance records stimulates perfect attendance by others at Consolidated in Lynchburg.***

**By VERNE BOBBITT**
*Personnel Director*
*Consolidated Textile Co., Inc.*

MOST MILL MEN know the cost involved when operatives are absent from their jobs. Absenteeism is one of the most vexing problems to the industrial supervisor. This is especially so in the highly mechanized textile industry where it is so necessary to have every job filled every shift. In fact, it is so important in the textile industry that a spare employee is sometimes carried on the payroll for every anticipated absence. This means that we carry many more people on the payroll than we have jobs in our mills.

Many mills pay reporting time to the spare operatives for reporting to work to see if there is anyone absent, and still other mills have to rotate their regular operatives to give the spare operatives enough work to keep them on the payroll. Of course, this all adds to the cost of absenteeism. Stopping machinery sometimes results from absenteeism, and the lost production adds up to more loss in profits.

**Emphasize Benefits.** We have always considered absenteeism from the viewpoint of how much the absentee and the company lose as a result of an absence. Why not approach the problem from the viewpoint of the benefits to the operative and the company if a perfect attendance record is achieved for a period of time.

Sometimes employees talk about the operator who does not work regularly and oftentimes the operator may say: "I work regular; haven't lost a day in two years, but the company says nothing to me. If you lose time around here you get some attention." Well, maybe he is right; we don't recognize the faithful employee who is on his job every day in the year, sometimes year after year.

We have to find ways and means to put the fellow who works every day, in the spotlight. Let's

## Wage-Hour Administrator Reports on Compliance of Textile Industry During 1952

Violations of the overtime pay provisions of the Fair Labor Standards Act were the chief cause last year of back wage liabilities for firms in the textile industry, according to the 1952 annual report of the U. S. Labor Department's Wage and Hour and Public Contracts Divisions. The report, recently released by Administrator William R. McComb, shows that employers in the industry paid $136,317 in back wages to 3,168 employees, as a result of the Divisions' activities. This sum does not include amounts awarded to employees who sued in court for back pay and liquidated damages.

Of the 607 textile industry establishments investigated by the Divisions during fiscal year 1952, 49 per cent were found in violation of the overtime pay requirements. Fourteen per cent had failed to comply with the statutory minimum wage. The Divisions found violations of the Act's child-labor provisions in 4 per cent of the investigated establishments.

This record—and the fact that 60 per cent of the investigated establishments had violated one or more of these basic provisions of the Federal Wage and Hour Law—should not be considered representative of compliance by the textile industry as a whole, however. The Divisions' policy is to make investigations on a selective basis. Efforts are concentrated where complaints have been made or general information indicates that violations will probably be found. Only a small proportion of those establishments having employees covered by the law are investigated.

"These findings should remind all employers in the textile industry to make sure they are complying with the Act," Administrator McComb commented. "Most violations were due to mistaken ideas about the Wage and Hour Law's applicability to some of the establishment's employees. Complete understanding on the status of every employee would eliminate the chance of having to make unexpected back wage payments."

The Act's provisions apply to employees engaged in interstate commerce or in the production of goods for interstate commerce. Unless they come within a specific exemption, such employees are entitled to a minimum wage of 75 cents an hour and not less than time and one-half their regular rate of pay for all hours worked in excess of 40 a work-week. The child-labor provisions set a minimum age of 16 years for employment in general and 18 years for jobs which the Secretary of Labor has declared hazardous.

A request to the nearest regional or field office of the Divisions should be made by any employer who has questions about the Fair Labor Standards Act. The Divisions' regional offices are located in Boston, New York, Philadelphia, Birmingham, Cleveland, Chicago, Kansas City, Dallas, San Francisco, and Nashville.

call him a *perfect attender* and find some way to impress others less faithful with his or her record.

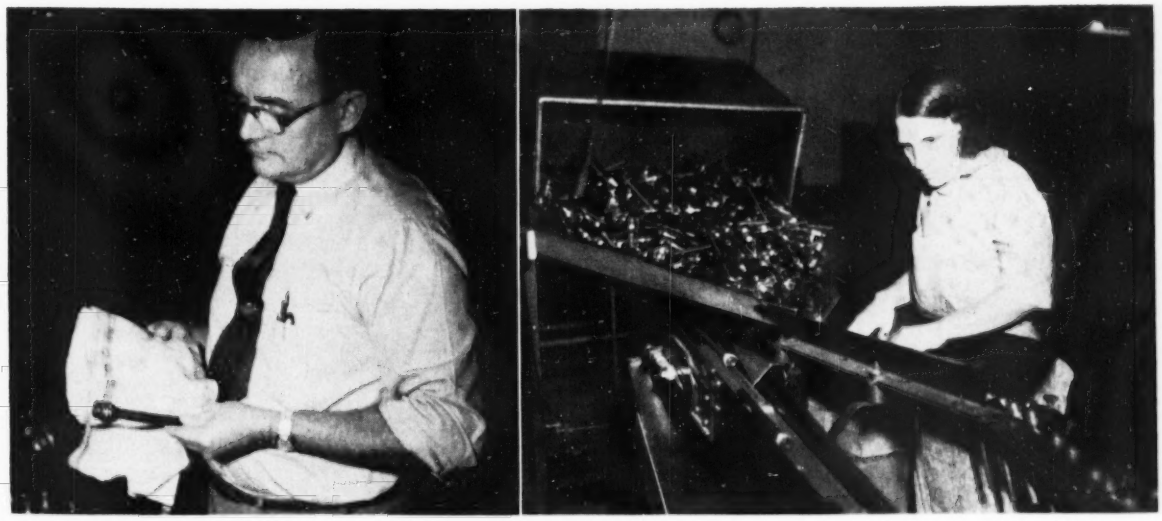
**Value in Recognition.** Compensation in the way of a bonus may be one way. But I believe if employees are given monetary consideration it is soon spent and forgotten. I believe public and mill recognition is the answer. I think you will find that the desire for recognition is one of the strongest desires of the human heart. If we as industrial managers don't wake up to this fundamental fact, we are overlooking the most powerful force in bringing about employer-employee cooperation.

We had an experience in our mill which proves that attention should be given to the perfect attenders. In 1950 we decided to recognize those in our mill who had perfect attendance records for the year. In checking the records, we found that only 7% of our employees had reported to their job every working day during the year 1950. We decided to get the local papers to run their names in the morning and evening editions. We also published their names in our company magazine and posted their names on the bulletin boards in their respective departments. We posted the names of these employees in our canteen where everyone visits sometime during the day. Every employee should be informed about who worked a full year in every department in the mill.

**Attendance Up.** In 1951 we found that the percentage of perfect attenders had gone up to 10%. This told us that something else should be done to encourage more faithfulness in getting to work every day. Those qualified were given a perfect attendance award in the form of an attractive certificate. When the perfect attenders received these certificates, they went around and showed them to their fellow employees. Employees were proud of the recognition, and we heard such comments as: "I am going to try to get one of these every year." We still gave their names to the local papers, published them in our company magazine, and posted them on the bulletin boards all over the mill.

**Program Pays.** Upon tabulating the record for 1952, we found the percentage of perfect attenders to be 18%. That's the record, and we are convinced that putting the spotlight on the employees who report to work every day is the soundest approach to the problem of absenteeism.

Of course, this is not the end, as much has to be done in this job recognition of individuals for being present every working day in the year. The chronic absentee presents a problem. If he or she can't be influenced by the record of the perfect attender, other methods should be tried. The search must go on for better methods of dealing with this problem. The fact remains: as the number of employees that are on the job every day increases, the number of absentees decreases.



**RUB THE RINGS** of a bobbin on a strip of clean cloth and note the amount of soil hidden on the bobbin. Here, Mr. Fasnacht holds up a length of degreaser cloth removed from the refinishing machine. Soil removal is evident. Right, bobbins fresh from the weave room are sorted into the Terrell stripper by the operator. Attendant, here, has plenty of time to service the refinishing machine on demand.

# Clean Up With Clean Bobbins!

***Fancy goods mill licks dirty filling problem with bobbin degreasing and refinishing machine***

**By JOSEPH T. FASNACHT**
*Stelhi & Co., Inc.*

**EXCLUSIVE**

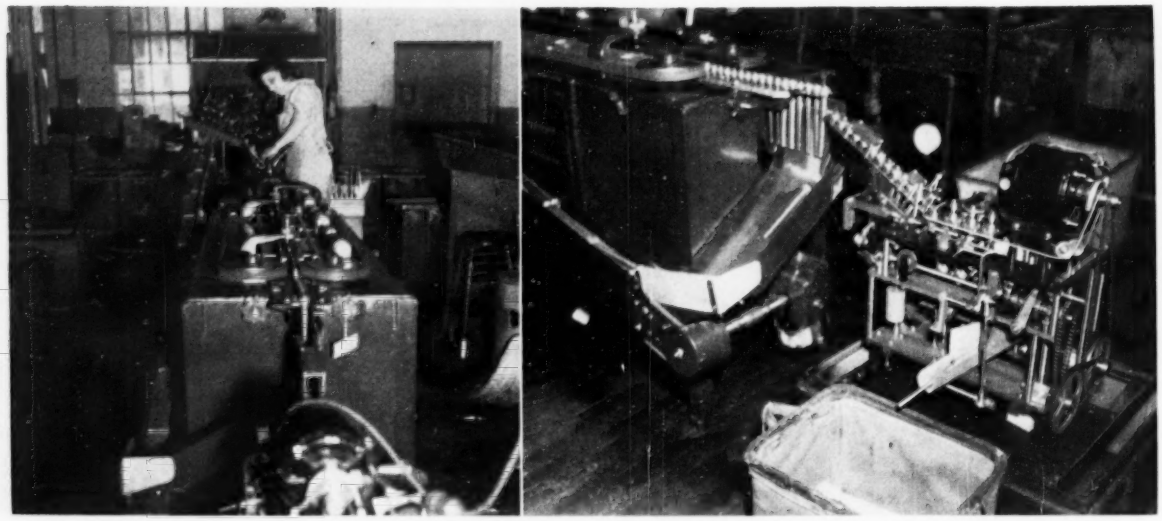
SOILED FILLING is a headache in many mills. At times, the amount of rejects and seconds directly stemming from dirt in the cloth can be appalling. Vigorous scouring may remove some of the dirt streaks, but more often than not, the soil is locked in the cloth. In order to reduce the frequency of soil streaks, steps must be taken to prevent soiling at the source. Stelhi & Co., Inc., Lancaster, Pa., weaves rayon, silk, synthetics, and makes broadgoods for ties and apparel, plain and fancy. This mill has adopted a practical approach to the problem of soiled filling.

Let's follow the loom bobbin from the time it leaves the filling winder until it returns once again to the winding room. This may seem elementary. However, in tracking the course of a bobbin through the mill, clues leading to the discovery of soil contamination factors can easily be uncovered.

Filling is wound on many types of winders including the most modern automatic quillers. Whether an antique or not, the winder must be kept clean or else the dirt problem starts immediately. Excessive lubrication invariably shows up as a streak in the cloth. Not only will soil find its way right to the wound yarn, but also to the bobbin butt rings where it will transfer to yarn on other quills jostled in tote boxes, conveyors, or elsewhere.

Fully wound quills which are to be conditioned are placed on pin boards and transported to the conditioning apparatus. Crepe yarns, for example, are twist-set by placing in controlled heat and moisture for a predetermined length of time. During these operations, the quill has ample opportunity to accumulate soiling ingredients on the butt rings. Although these rings are often specified "rust-proof," a certain amount of oxidation occurs. If these rings are rubbed against another fully wound bobbin, the yarn will show discoloration.

The bobbin has now reached the loom where it is placed in various types of magazines, differing according to the model of the loom. Here too, the butts tend to pick up contaminants. When the quill is exhausted, down it falls into a drop box. These drop boxes need regular cleaning because here the quill makes vigorous and forceful contact with the inside of the box, picking up residue. Some bobbins will find their way onto the floor where gear drippings, bearing



**REFINISHING MACHINE,** lower center, is fed directly from Terrell bobbin stripper at the rate of 30 quills per minute. Right. Refinished quills are deposited into a canvas tote box (which is cleaned periodically) while excess quills delivered from the Terrell are dropped into the Terrell chute leading to conveyor.

greases, and similar fouling matter lie in prey. These filthy bobbins too often are tossed back into the drop box. All the bobbins they contact will become dirty.

Bobbin boys collect these empty bobbins in large boxes (which must be cleaned periodically). These boxes are then emptied into the hopper of a bobbin stripping machine, such as the Terrell, in order to remove bunches.

From the foregoing account, it becomes readily evident that the bobbin has had all too numerous occasions to pick up a soil deposit before it begins its cycle once again in the winding room. If you are in doubt, take a clean piece of cloth and wipe the barrel of the bobbin (select the cleanest-looking one you can locate). This is not ordinarily the dirtiest part of the bobbin. Now wipe the rings on the butt end. Surprised?

No matter how conscientiously efforts were put forth to eliminate all the dirt and grease at points along the route of a loom bobbin, an unacceptable amount of soil adhered to it. This had to be removed. How to do it best and most economically was the problem.

A number of different operators were assigned to the job of hand-cleaning bobbins. None was able to continue working for any reasonable length of time because of nausea arising from cleaning solution fumes. And even if these operators were immune to a solvent-charged atmosphere, they were licked by the sheer weight of numbers. We use thousands upon thousands of quills. A better method had to be devised.

It was learned that a machine ideally suited to our situation was available from Glenwood Machinery Associates. This machine was designed to feed directly from a Terrell bobbin stripper and consequently would not need a second operator—a desirable consideration. We installed this unit. It proved to be the answer for our production headache. The objective was to clean bobbins and stop complaints about dirty filling. This goal has been reached. Dirty filling is just not heard of any more at this mill.

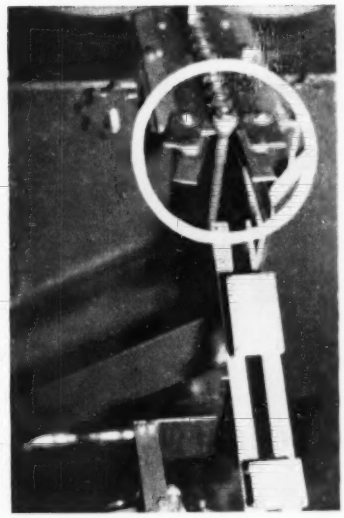
**Description of Machine.** The machine degreases and refinishes. It has three stations where the bobbin is revolved at 1200 rpm against a piece of degreasing cloth which removes soil from tip to butt of bobbin, including the rings.

The cloth moves slowly from one spool to another, thus presenting a clean surface for optimum results. By substituting a fine abrasive paper for the cloth, bobbins may be sanded and fine nicks or slight imperfections in the finish removed. We are running mostly new quills and have had no reason as yet to use the sanding feature. However, when the time comes, we will use it since we don't want fuzzy picks, broken picks, split filling, and tight picks to become a problem.

The final touch is a thorough automatic waxing with Simonize applied to a piece of lamb's wool buffer in the machine. Johnson's Car-Plate or some other brand of self-polishing wax is satisfactory. Silicone waxes tend to produce sticky quills. One application of wax will last through four hours of continuous polishing.

A roll of degreaser cloth serves as long as one month before needing replacement, and then only costs a few dollars. However, it is advisable to dry clean the cloth with solvent when it appears loaded with soil. This might be indicated after eight hours of consecutive operation or as many as 15,000 bobbins. Considering that production is 30 bobbins per minute, this amount of attention is not unreasonable.

The Terrell machine output varies from 90 to 120 quills per minute. Provision for smooth flow from the Terrell to the Glenwood machine is made by means of an extension rail fitted to the Terrell, and leading to the chute of the Glenwood feed in such a



**THREE-INCH RAIL** extension on Terrell stripper, leading to slotted chute of refinishing machine (foreground). Note gate on extension. Closing the gate forces bobbins into refinisher while opening the gate permits them to drop into the Terrell chute, entirely bypassing the refinisher.

manner that excess quills drop into the conveyor of the Terrell as in routine Terrell operation. Therefore, every third or fourth quill is processed on the Glenwood machine. In our mill, at this rate we clean all the quills often enough to avoid dirt rub-offs. Most mills are fortunate if they get around cleaning their quills once or twice a year, and then satisfactory results are dubious.

When bunches are being removed on quills which require no cleaning, a gate switch on the Terrell extension rail is opened so that all the quills drop into the Terrell conveyor.

In my opinion, this cleaning operation (which was never done until the drive for clean filling was inaugurated) does not have to be continuous. It may be periodic, depending upon what experience indicates is necessary. To explain, on some heavy yarns such as 300 denier rayon, the same bobbin might return to be cleaned several times in a 24-hour period as compared to infrequent return of a 45 denier rayon. If readers are further interested in our clean-filling campaign, they are most welcome to visit the Stelhi plant in Lancaster, Pa.

## Dyeing Sweaters Made of Orlon

Since dyebath temperatures above 160 F caused sweaters made of Type 41 Orlon to become distorted instead of shrinking into desired shape (necks and bodies were small while arms and waistbands were larger than original size), an extensive study was undertaken by the Textile Fibers Department of the Du Pont Co., in cooperation with the knitters, to determine the cause.

This study, a recent issue of "The Technical Bulletin" reports, led to the production of tightly knit sweaters that could be dyed at 212 F without significant distortion. To avoid dye differences, it is recommended that knit sweaters should not be exposed to heat treatments prior to dyeing.

Orlon can be dyed in light shades at the boil with dispersed dyes which yield clear, bright, level dyeings with excellent wash fastness. Light fastness of these dyeings is poor, however (2.5 to 5 hours sunlight or Fade-Ometer). Acid dyes applied by cuprous ion technique to sweaters made of Orlon give the required light fastness (20 hours or better) and exhibit excellent wet fastness properties in pastel and medium shades. An added advantage of the cuprous ion method is that it can be used to produce a full range of shades including a black.

Disadvantages of the method point to duller shades with acid dyes than those from dispersed dyes, and an accentuation of yarn or fiber non-uniformities. However, brightness and better levelness may be obtained by selecting dyes that have slow exhaustion rates and by adding sulfuric acid and phenol to the dyebath.

Dyeing and finishing procedures are given in the Bulletin, as well as suggested formulas for a range of popular sweater shades.

## Diammonium Phosphate Process for Dyeing Wool

A process patent contributing toward increased manufacturing efficiency and lower production costs in dyeing wool has been announced by Victor Chemical Works.

The patent is said to be the result of several years of development work to improve dyeing processes carried on at Pacific Mills, Lawrence, Mass. Victor has purchased the patent covering the process and will issue royalty-free licenses to companies desiring to use the process. The process involves the use of the highest quality diammonium phosphate which is readily available.

Major advantages claimed for the Pacific Mills-Victor diammonium phosphate process are:

1. Insurance of proper control of the dye bath.
2. Proper and controlled conditioning of the cloth before dyeing begins.
3. Gradual increase in acidity to assure fixation and dye exhaust.
4. Uniformity of processing.
5. Improved and increased levelness of dyeing.
6. Thorough and efficient use of dyestuff.
7. Ready availability in quantity of high quality diammonium phosphate at low cost.
8. Saving of man-hours and actual production loss because of the substantial reduction in the percentage of rejects due to improper processing.

The process requires no major changes from the usual wool dyeing procedures, and standard equipment can be used in adopting the process and making it effective. Victor is making available complete data developed by Pacific Mills which lists the dyes which have been used and the exact method of use. Adherence to the specifications and cooperation of the dyer will assure success of the process in any mill, it is claimed.

# "Our Mill Checks Oilers Every Day"

★ ***Schedule of machine parts to be lubricated given to oiler at beginning of shift***

★ ***Secondhand indicates compliance by signing and submitting to overseer.***

By **RAMON PARKS**

EXCLUSIVE

SCHEDULES for cleaning, maintenance, oiling, etc., like other information for employees that is required to be posted permanently, eventually lose their effectiveness. In other words, supervisors and operatives alike begin to take them for granted — the supervisor assuming that the operatives are complying with the provisions of the schedules, and the operatives assuming that the supervisor has forgotten about them.

This has been the experience in our mill, at least, and we feel that our employees are no different from those in other textile plants. So, we believe that the condition prevails throughout the industry.

Here is a system recently placed into operation by our management in an effort to overcome this problem of personnel not following schedules. It converts the permanent type of schedule to a "daily" schedule.

The system should not be considered a cure-all, however, because the supervisor still has to check to see that the schedule is being complied with. But, since a new schedule is posted at the beginning of each shift, it serves as a constant reminder to both supervisors and operatives, thereby contributing to efficient mill operation.

The schedules illustrated on the page below were designed for the oilers in our spinning room. However, the same principle can be applied to cleaning, maintenance, and perhaps other schedules required for the everyday operation of a textile mill. We check our oilers every day by this method.

The spinning room for which the schedules were prepared is equipped with 140, 4-inch gauge, 224-spindle frames, producing 8s to 15s cotton yarn. Head end gearing is lubricated with a "one-shot" system. Spindles are of roller bearing type, cylinders in ball bearings, and nebs are fitted with oilless bearings for roller tips. Two oilers are required, one for each shift.

Note that there is a Master Oiling Schedule and ten Daily Oiling Schedules, five (one for each day of a five-day week) for the first shift oiler and five for the second shift oiler. The master schedule is posted in the spinning room overseer's office for ready reference. The daily schedules, which are simply a break-down of the information contained on the master schedule, are posted at the beginning of each shift in a spot convenient for the oilers (bulletin board in spinning room or near lubricant dispensing equipment in room). These serve to remind the men of the job that is before them for that particular day. Parts to be oiled on a given number of frames and other duties are specified.

A feature of the daily oiling schedules which should not be overlooked is that space is provided for signatures of both the oiler and his secondhand. At the end of the shift, the secondhand is required to sign the schedule and submit it to the overseer. We feel that he will hesitate to sign this report unless he knows that the oiler has performed the duties specified.

Although it is not shown here, incorporated in the master schedule opposite the parts to be lubricated should be the type, grade, and brand of lubricant to be applied, so that there will be no uncertainty about this on the part of the supervisor and oiler.

It is, of course, imperative that the master oiling schedule and, in turn, the daily schedules be kept up to date by making changes necessitated by modification of equipment, installation of new machines, etc. While these schedules are based on a five-day week operation, if the mill is operating more or less than five days per week, the daily schedules can be designated "First Day," "Second Day," etc., instead of "Monday," "Tuesday," etc.

Daily schedules can easily be prepared on some type of office duplicating machine. They should be made up in reasonable quantities so that necessary changes in the oiling schedule might be conveniently achieved.

**MASTER AND DAILY SCHEDULES** for oilers in a spinning room with 140, 4-inch gauge, 224-spindle frames, operating two shifts, five days per week. Two oilers are utilized, one for each shift. Master schedule is posted in overseer's office. Daily schedules are given to oiler or posted at a spot convenient to him at beginning of each shift. Note that information contained on each of the ten daily schedules (five, one for each day of week, for the first and second shifts) corresponds with that given on the master schedule. Also observe that space is provided for signatures of both the oiler and his secondhand.

## MASTER OILING SCHEDULE

**SPINNING ROOM** — **Date Adopted**_____

| Parts to Be Oiled and Other Duties of Oilers | Frequency of Oiling or Other Duties | First Shift | | | | | Second Shift | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mon. | Tues. | Wed. | Thurs. | Fri. | Mon. | Tues. | Wed. | Thurs. | Fri. |
| Oil draft gear assemblies | 70 frames each 8 hours | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Fill containers on "One-Shot" oilers | 140 frames monthly | 14 | — | — | — | — | 14 | — | — | — | — |
| Pull handle (operate) "One-Shot" Oilers | 140 frames each 8 hours | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| Oil front stands | 70 frames each 8 hours | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Oil front saddles | 35 frames each 8 hours | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Oil middle and back stands and back saddles | 70 frames weekly | — | 15 | 20 | — | — | — | 15 | 20 | — | — |
| Oil hank clocks, roving traverses and rocker shafts | 70 frames weekly | — | — | — | 35 | — | — | — | — | 35 | — |
| Oil lifting rods | 140 frames monthly | — | 14 | — | — | — | — | 14 | — | — | — |
| Oil anti-friction bearing spindles | 140 frames each 6 months | 3 | — | — | — | — | 3 | — | — | — | — |
| "Dope" anti-friction cylinder bearings | 140 frames each 8 weeks | — | — | — | 9 | — | — | — | — | 9 | — |
| Clean and "Dope" tape pulleys | 140 frames each 6 months | — | — | — | — | 3 | — | — | — | — | 3 |
| Go to Supply Room for oils and greases | As needed—First shift | — | — | — | — | 30 Mins. | — | — | — | — | — |
| Brush and fill fire buckets | 50 buckets weekly | — | — | — | 25 | — | — | — | — | 25 | — |
| Clean oiling equipment and containers | Once weekly—Second shift | — | — | — | — | — | — | — | — | — | 30 Mins. |
| Miscellaneous cleaning at end of week | Once weekly—Each shift | — | — | — | — | 20 Mins. | — | — | — | — | 20 Mins. |

### DAILY OILING SCHEDULE
### FIRST SHIFT—MONDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Fill containers on "One-Shot" oilers | 14 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil anti-friction bearing spindles | 3 |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### FIRST SHIFT—TUESDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil middle and back stands and back saddles | 15 |
| Oil lifting rods | 14 |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### FIRST SHIFT—WEDNESDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil middle and back stands and back saddles | 20 |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### FIRST SHIFT—THURSDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil hank clocks, roving traverses and rocker shafts | 35 |
| "Dope" anti-friction cylinder bearings | 9 |
| Brush and fill fire buckets | 25 (Buckets) |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### FIRST SHIFT—FRIDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Clean and "dope" tape pulleys | 3 |
| Go to Supply Room for oils and greases | * |
| Miscellaneous cleaning at end of week | * |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

*As needed

### DAILY OILING SCHEDULE
### SECOND SHIFT—MONDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Fill containers on "One-Shot" oilers | 14 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil anti-friction bearing spindles | 3 |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### SECOND SHIFT—TUESDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil middle and back stands and back saddles | 15 |
| Oil lifting rods | 14 |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### SECOND SHIFT—WEDNESDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil middle and back stands and back saddles | 20 |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

### DAILY OILING SCHEDULE
### SECOND SHIFT—THURSDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Oil hank clocks, roving traverses and rocker shafts | 35 |
| "Dope" anti-friction cylinder bearings | 9 |
| Brush and fill fire buckets | 25 (Buckets) |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand

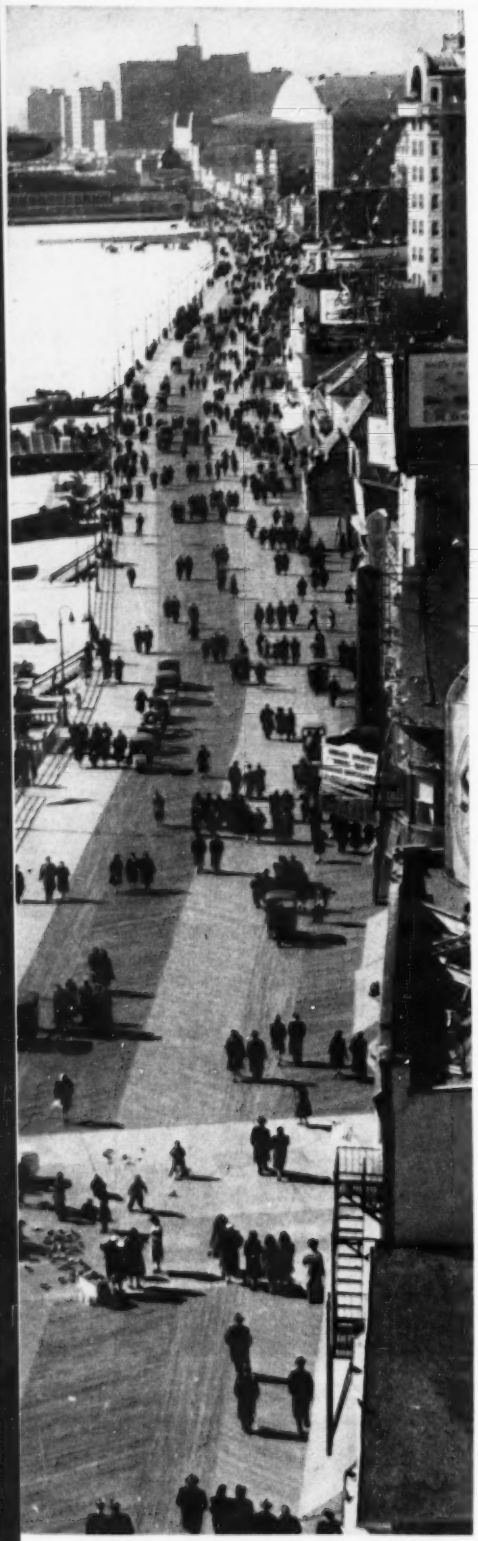
### DAILY OILING SCHEDULE
### SECOND SHIFT—FRIDAY

**Date**_____

| Parts to Be Oiled and Other Duties of Oiler | No. of Frames |
|---|---|
| Oil draft gear assemblies | 70 |
| Operate "One-Shot" oilers | 140 |
| Oil front stands | 70 |
| Oil front saddles | 35 |
| Clean and "dope" tape pulleys | 3 |
| Clean oiling equipment and containers | |
| Miscellaneous cleaning at end of week | |

Secondhand will post schedule at beginning of shift and at end of shift he will sign and put on overseer's desk.

Oiler_____ _____ Secondhand



**A FAMILIAR SCENE** to those who have had occasion to visit Atlantic City on vacation or to attend textile conventions and shows is this unusual view of the boardwalk. The Auditorium where the Knitting Show will be held can be seen near the top of the photo.

# Knitting Show Week

REPRESENTATIVES of all segments of the knitting industry—hosiery, underwear, and outerwear—will journey to Atlantic City, N. J., during the week of April 27 to attend the conventions and conferences scheduled by their respective trade associations, and at the same time attend the 41st Knitting Arts Exhibition.

As reported in the March issue of TEXTILE INDUSTRIES, this year's show is not only sponsored by the National Association of Hosiery Manufacturers, but also the National Knitted Outerwear Association and the Underwear Institute, Inc. The two knitting trade expositions, which have up to now been held on alternate years, will

## ——List of Exhibitors and Floor Plan of


Aberfoyle Manufacturing Co. ..... 325
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Air-Perme-Ator Mfg. Co. ..... 119A
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American Aniline & Extract Co., Inc. ..... 212
American Bemberg Corp. ..... 297
American Dyestuff Reporter (Publication) ..... 120
American & Efird Mills ..... 256
American Lava Corp. ..... 113
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American Schweiter Co. ..... 442
The American Thread Co. ..... 295
American Viscose Corp. ..... 327
American Vitos Co., Inc. ..... 124
America's Textile Reporter (Publication) ..... 75
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Amsco Packaging Machinery, Inc. ..... 43
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Atlantic Rayon Corp. ..... 278
Paul A. Barker, Inc. ..... 24
Bausch & Lomb Optical Co. ..... 416
The Bentley Knitting Machinery Organ. ..... 160
Boger & Crawford ..... 291
Henry Boshainer & Co. ..... 263
Brant Yarns ..... 530
Briar Products ..... 388
H. Brinton Co. ..... 360
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Central Yarn & Dyeing Co. ..... 523
China Grove Cotton Mills Co. ..... 241
Cocker Machine & Foundry Co. ..... 52AA
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Charles Cooper Co. ..... 404
Cotton Yarns Co. ..... 184
The Crawford Manufacturing Co., Inc. ..... 255
H. E. Crawford Co. ..... 384
Cross Cotton Mills Co. ..... 194
Cumings-Landau Laundry Machinery Co. ..... 524
Cutting Room Appliances Corp. ..... 99
Daily News Record (Publication) ..... 62
Davison Publishing Co. ..... 11
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Dubied Machinery Co. ..... 179
The Duffy Silk Co. ..... 437
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Heany Industrial Ceramic Corp. ..... 527
Oscar Heineman Division ..... 412
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Hemphill Co. ..... 172
Herr Manufacturing Co., Inc. ..... 96B
Hoffner Rayon Co. ..... 246
Alfred Hofmann & Co. ..... 399
Hosiery Industry Weekly (Publication) ..... 120
Hosiery Mill Accessories, Inc. ..... 417
Hosiery & Underwear Review (Publication) ..... 2
Howes Publishing Co., Inc. ..... 120
Indianapolis Chemical Co., Inc. ..... 198
Indian Orchard Finishing Co. ..... 13
The Industrial Dryer Corp. ..... 73
International Textile Machine Co. ..... 514
The Loyal T. Ives Co., Inc. ..... 244
Jacquard Knitting Machine Co., Inc. ..... 177
Johnston Mills Co. ..... 268
Jordan Mills, Inc. ..... 375
Kahn & Feldman, Inc. ..... 364
C. P. Kaler Co. ..... 89E
Kali Manufacturing Co. ..... 69
Samuel Kassow Co. ..... 230AA
Kearny Manufacturing Co., Inc. ..... 186
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Kidde Manufacturing Co. ..... 444
A. Kimball Co. ..... 287
Joseph Klumpp Co. ..... 406
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Laurel Soap Manufacturing Co. ..... 228
Leatex Chemical Co. ..... 506
Percy A. Legge ..... 394
Leighton Machine Co. ..... 379
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Liberty Throwing Co., Inc. ..... 248
Karl Lieberknecht, Inc. ..... 252
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Philadelphia Dye Works ..... 185
Philadelphia Metal Drying Form Co., Inc. ..... 103
Philadelphia Penn Worsted Co. ..... 407

# in Atlantic City, April 27-May 1

hereafter be merged into a single show to be known as the Knitting Arts Exhibition and held biennially.

Over 200 suppliers of knitting, sewing, dyeing and finishing equipment, sewing threads and fabrics, and general mill supplies had contracted for exhibition space in the huge Atlantic City Auditorium at the time this issue went to press.

On Monday and Tuesday, April 27-28, the NAHM convention and conference will be held at the Claridge Hotel.

Committee meetings have been scheduled by the Underwear Institute for April 26th at Chalfonte Haddon Hall Hotel. The annual convention is to be held on Monday, the 27th.

A reception and cocktail party for its members will be held by the NKOA at 6:00 P.M. on Wednesday, the 29th, in the Mirror Room at the Hotel Shelburne.

## *Exhibition Area*—

| | |
|---|---|
| William A. Popp Associates | 286 |
| Premier Textile Machinery Co. | 1 |
| Proctor & Schwartz, Inc. | 188 |
| Queens Machine Co. | 127 |
| Robert Reiner, Inc. | 16 |
| Reliance Electric & Engineering Co. | 410 |
| A. H. Rice Co. | 531 |
| Richmond Oil, Soap & Chemical Co., Inc. | 117 |
| Roth Cutting Appliances | 518-519 |
| Royal Cotton Mill Co. | 31 |
| Royersford Needle Works, Inc. | 311 |
| St. Regis Paper Corp. | 522 |
| Sauquoit Silk Co, Inc. | 237 |
| Scholler Brothers, Inc. | 232 |
| Scott Testers, Inc. | 357 |
| Scott & Williams, Inc. | 142 |
| Scoville Manufacturing Co. | 520 |
| Sellers Manufacturing Co. | 31 |
| A. G. Sewell | 181 |
| Shell Oil Co. | 83 |
| Simplex Packaging Machinery, Inc. | 43 |
| Singer Sewing Machine Co. | 354 |
| Smith Drum & Co. | 52 |
| Sonoco Products Co. | 373 |
| Southern Mercerizing Co. | 213 |
| Southern Textile Machinery Co. | 392 |
| Specialty Products Co. | 210 |
| Morris Speizman Co., Inc. | 86 |
| The Spool Cotton Co. | 112B |
| Stampagraph Co., Inc. | 78 |
| Standard-Coosa-Thatcher Co. | 215 |
| Steele Canvas Basket Co., Inc. | 502 |
| Sterling Engineering & Mfg. Co. | 71 |
| Stewart-Warner Corp., Alemite Division | 402 |
| Stop-Motion Devices Corp. | 106 |
| Supreme Knitting Machine Co., Inc. | 219 |
| Synthane Corp. | 200 |
| Synthetic Yarns | 278 |
| Tennessee Eastman Co. | 362 |
| Textile Age (Publication) | 225AA |
| Textile Industries (Publication) | 125 |
| Textile Machine Works | 318 |
| Textile World (Publication) | 85 |
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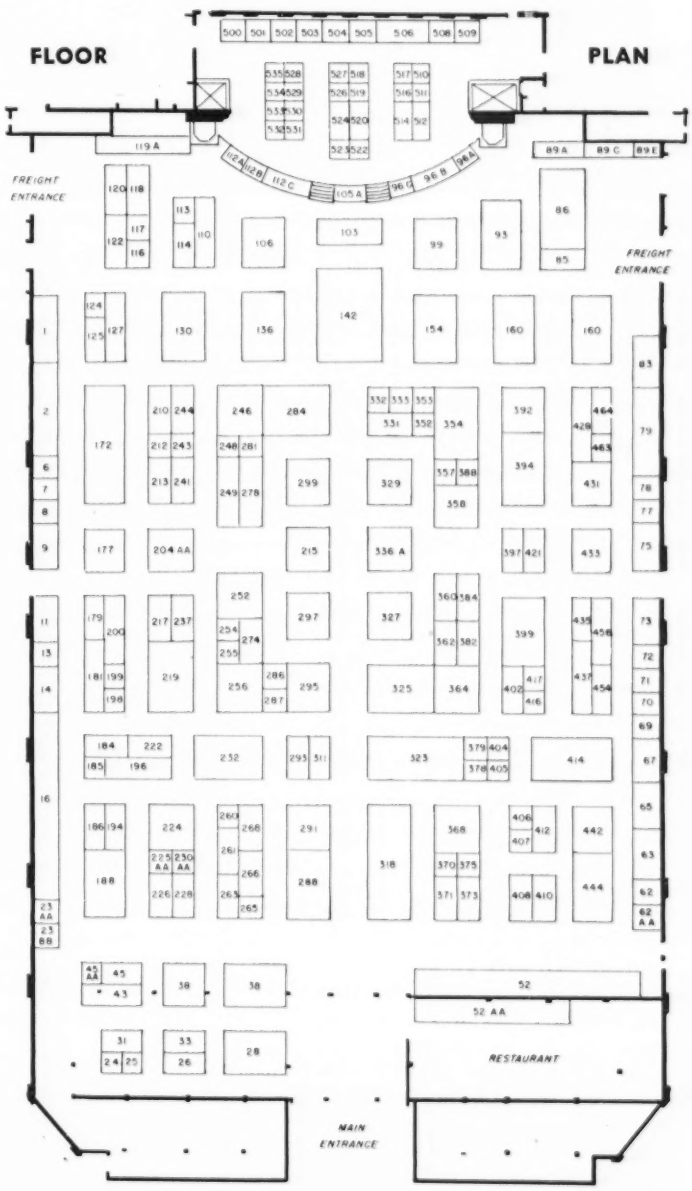
| Tompkins Bros. Co. | 454 |
| The Torrington Co. | 331 |
| Tubular Textile Machinery Corp. | 89C |
| Turbo Machine Co. | 154 |
| Turner Transfer, Inc. | 532 |
| E. W. Twitchell, Inc. | 65 |
| Underwear Institute, Inc. | 105A |
| Union Special Machine Co. | 323 |
| United Elastic Corp. | 33 |
| United Knitting Machine Co. | 63 |
| U. S. Hoffman Machinery Corp. | 120AA |
| U. S. Rubber Co., Lastex Yarns & Rubber Thread Division | 299 |
| U. S. Rubber Co. Textile Division | 421 |
| U. S. Textile Machine Co. | 93 |
| Universal Winding Co. | 130 |
| Utica Novelty & Mill Specialty Co. | 79 |
| Valdese Manufacturing Co., Inc. | 263 |
| Veeder-Root, Inc. | 265 |
| Venango Engineering Co., Inc. | 464 |
| Victor Ring Traveler Co. | 112C |
| Virginia-Carolina Chemical Corp. | 6 |
| Walton Laboratories | 456 |
| G. H. Waterman Co. | 378 |
| Whitin Machine Works | 414 |
| Wildman Manufacturing Co. | 136 |



# Short-Cut Tow to Top Process

***Machine converts filament to staple by the Perlok system and crimps fibers in one continuous operation.***

*Staff Prepared*
EXCLUSIVE

THE GREAT and continuing revolution in fiber technology has brought with it equally dramatic changes in textile machinery and processing concepts. A number of unique machines, undreamed of just a few years ago, have gained acceptance among yarn manufacturers. This new group of recently developed equipment has enabled a broader employment of synthetic fibers and extended the boundaries for exploration of still more fertile fields of yarn and fabric design.

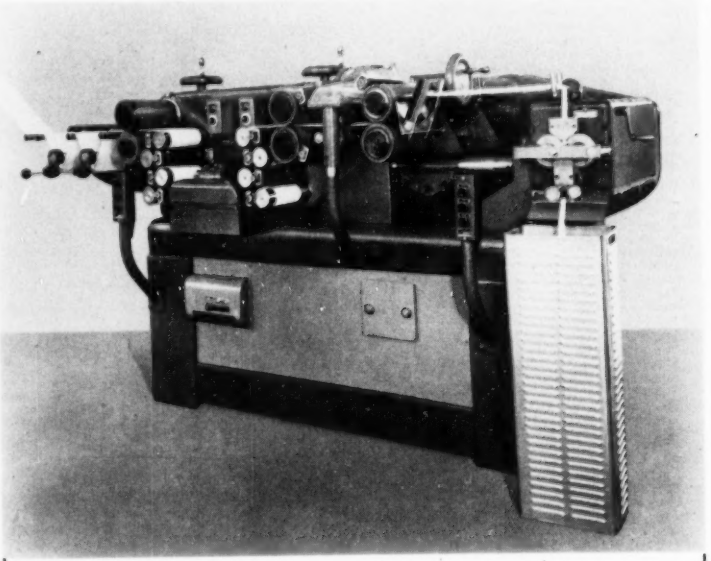
The latest machine added to this gallery is the Turbo tow stapler. Serial No. 1 of this new species is installed at Delaware Mills, Inc., New Castle, Delaware. The machine is a culmination of three years of close coordination between Delaware Mills, the J. L. Lohrke Company, and the Turbo Machine Company aimed at devising a unit which would convert continuous filament to staple fiber by the Perlok system and crimp the resulting sliver in one continuous operation. It may be used before pin drafters or gill reducers, thus putting the yarn spinner into the top making business for only a nominal investment.

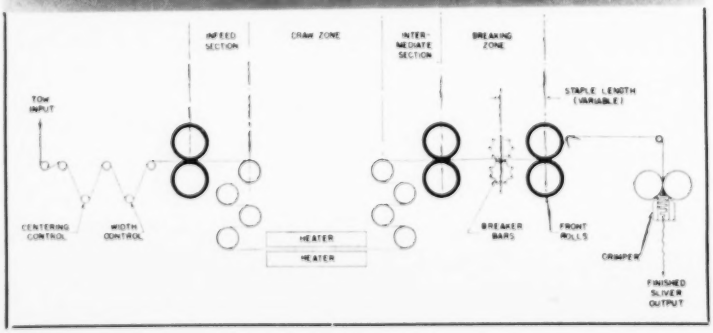
Given synthetic tow, Delaware Mills can deliberately alter fundamental fiber properties with this machine, as well as produce top from tow in a one-step operation. The machine can be set to vary alone or in combination such properties as denier, staple length, and crimp. In so doing, an almost unlimited number of new, distinctive yarn and fabric effects may be secured. Among the effects that are at the disposal of the designer, and which can be varied within a wide range, are luster, hand, fullness, and tensile strength.

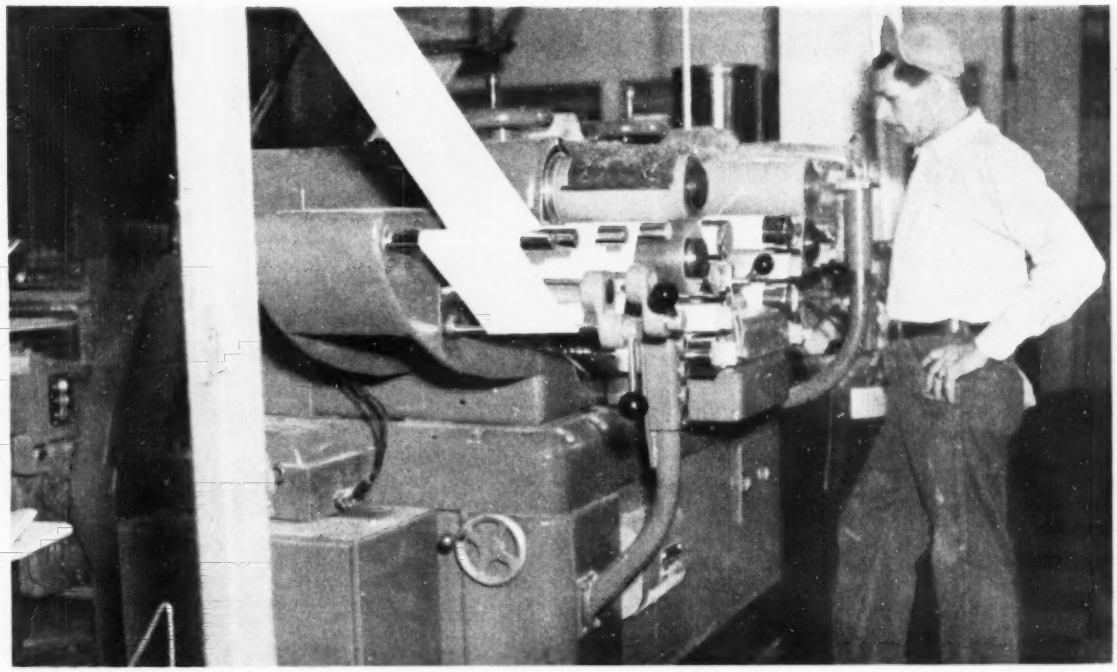
The tow stapler has proved ideal for the manufacture of knitting yarns. Orlon is one of the fibers being processed regularly through the machine. Tow is first passed through the tow stapler. It emerges as a continuous sliver and then is given one operation of open doubling and one of gill reducing prior to processing on the roving frame.

There are about 30 doublings in this operation. The initial weight is approximately 100 grains per yard and the final weight 30 grains per yard. At

**THE TURBO TOW STAPLER,** front view. Tow enters machine at left (see schematic diagram below photo) and stapled, crimped sliver is deposited into can at right.







**COMPACT UNIT** converts tow to stapled, crimped sliver in one continuous operation. The sliver, after one open doubling, is ready for pin drafting or gill reducing.

present 50 pounds per hour production from the tow stapler is all that can be obtained due partly to variations in present tow quality and insufficient knowledge of the heat versus speed relationship. As data on this new machine are accumulated, it is expected that production will rise. Although 100 pounds per hour is theoretically possible, the probability is that output will reach 75 pounds per hour and level off here.

**Yarn Effects.** One of the distinguishing features of this machine is its method of breaking tow into controlled staple lengths. Using a tearing action instead of a cutting or chopping motion for breaking staple, adjacent fibers in the tow do not always rupture at the same point. There is little chance of coterminal fibers showing up in the sliver. It is believed by some that these coterminal fibers are the cause of unevenness in yarns. Random distribution of staple, according to precepts of statistical analysis, enhances uniformity of the yarn. Random distribution also yields a yarn with a texture not unlike cashmere.

The tow is prepared for breaking by first aligning the fibers so that they are parallel and then subjecting them to heat which makes them more ductile. A series of snubbing bars located just in front of the back rollers guides tow in, and then it is pretensioned to eliminate whatever crimp the fiber producer has set into the filament. Crimp removal is necessary so that better control of the fibers during break drafting can be obtained. The tow is spread and centered by eccentric bars as it enters the back rolls. Centering of the tow and width of tow are controlled by two adjustment knobs.

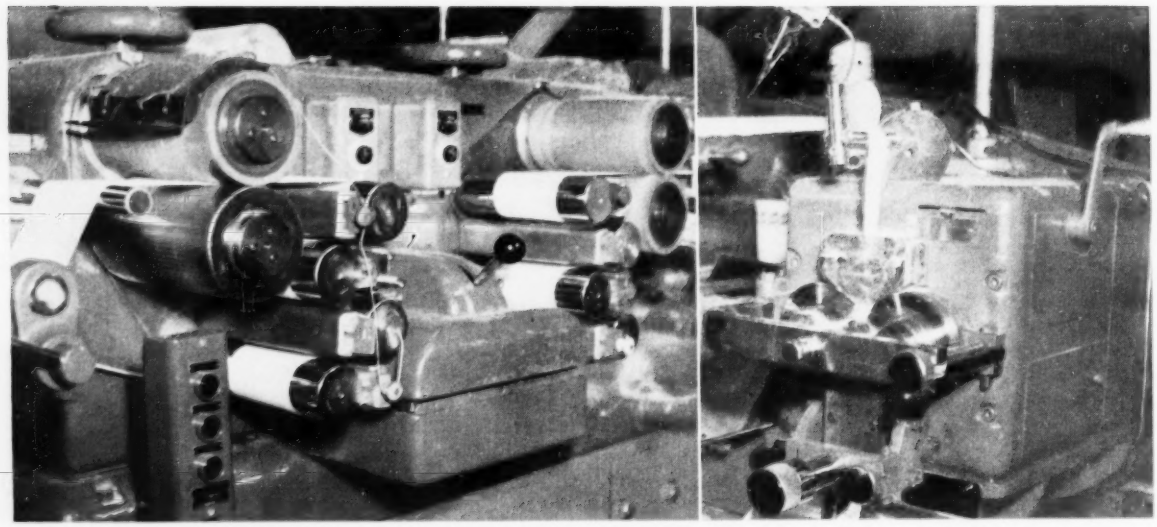
Delaware Mills has found that the addition of fiber lubricant at this stage is helpful in cutting down fiber static. The lubricant is applied by means of a felt pad loosely draped over the rubber covered top roller of the back roller group. At intervals, as required, the operator saturates the pad with oil applied from a standard oil spout can.

An integral part of the machine is a heating unit consisting of two thermostatically heated plates, each individually regulated. Temperatures may be varied within the normal range of thermoplastic heat requirements (150 to 500 F). The function of this section of the tow stapler is to contact the tow in the stretching zone and apply sufficient heat so as to make the fibers extensible. By varying the speed ratio of front and back rollers, stretch of any desired degree can be obtained. With a permanently set stretch, there is an accompanying change in denier.

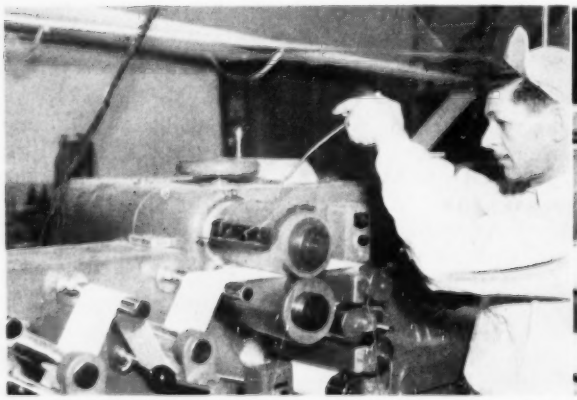
Laboratory tests have conclusively proved that various thermoplastic fibers may be reduced to one half the original denier size merely by changing the stretch ratio. It is of particular interest that while the fiber is reduced in denier, its tensile strength will rise. Specifically, by reducing Orlon denier to one-half its original, the tenacity is raised 50 per cent. This by-product of the tow stapler may be a factor for fabric development experts to reckon with.

The top plate pressure is released by means of a lever, allowing the tow to avoid high temperatures during stoppages. Plate pressure at contact can also be regulated with the same lever.

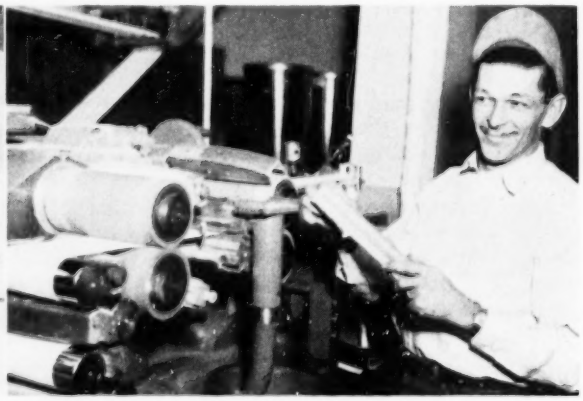
**Staple Length.** The tow, having



**TOW IS PRETENSIONED** before entering the break draft zone. This is accomplished by stretching the fiber between two sets of pressurized rollers. During pretensioning, heat may be applied to the tow by means of the thermostatically regulated heating unit shown here. Top roll pressures are controlled by the handwheels which may be seen at the top of photo. Right, crimper runs at synchronous speeds with the stapler. Crimp pressure and frequency can be varied by the handwheel, upper right, and the knurled knob, lower left.



**LUBRICATING** the tow by means of an oil saturated felt pad draped over the top back roller conditions the stock for processing through the tow stapler. Oil is applied as needed.



**ROLLER BRUSHES** are stripped of refuse periodically. Lint, chalk dust, and broken bits of fiber are exhausted to a collector by means of a vacuum nozzle (upright tube in center of photo).

been properly conditioned for break drafting, is then subjected to a draft of from two to eight in the breaking zone. An abrasive device forces strands of filament out of its regular path and causes the filaments to rupture. The front roller assembly rides on two bars which are calibrated for ratches from 0 to 13 inches. The assembly can be slid along the bars to any desired setting. A constant-length chain drive obviates the need for any changes in gearing transmission.

Before the tow reaches the break zone, it is saturated with chalk powder in order to absorb and remove the lubricant previously applied. The chalk prevents fibers from slipping during the break process. Chalking is not needed for nylon tow. However, it is used for Orlon because of a lack of suitable finish for Orlon acrylic fiber tow. As soon as the proper finish is developed by the fiber producer, chalking will be dispensed with.

Dust is caught by a battery of brushes contacting each of the working rolls. The machine operator cleans these brushes as they become loaded with fibers, fly, and chalk. The refuse is dropped into a vacuum collector located in the drafting zone. A nozzle extending over the breaker bars provides a means for exhausting "dandruff" and short fibers produced. The vacuum collector trap is emptied daily.

**Crimping.** The crimper operates at synchronous speeds with the stapler. It can be set for a full range of fiber crimp from the highest consistent with good processing to zero. In this respect, Perlok yarns are not limited to the producer's crimp. Regardless of

whether the fiber is Dacron, dynel, Orlon, Acrilan, nylon, or other synthetic tow, the tow stapler is unique in that it can crimp to new specification up to 350 feet per minute.

This faculty of the machine is of paramount importance to both yarn manufacturer and fabric designer. Interpreting this performance, it means that higher tensile strength, more uniform drafting, more uniform yarns, and different degrees of luster can be obtained from judicious selection of crimp. A high degree of crimp produces a duller yarn, and low crimp produces a bright, hard yarn.

As the sliver leaves the front rollers, it is sprayed with a static eliminating oil which has demonstrated easier handling of the slivers in subsequent doubling processes. The automatic oiler used for this purpose is not a standard attachment of the Turbo stapler. It is a product of one of Delaware Mills' enterprising personnel.

Crimping occurs after the sliver passes between two pressure regulated wheels which form a restricted orifice into the stuffer box. Stuffer box pressure, ranging from zero to 1800 pounds, is regulated by changing the distance between these two wheels. Crimp is controlled by means of a knurled knob at the stuffer box. The crimping wheels adjust for different thicknesses of tow or sliver without disengaging gears.

The crimped sliver is dropped into roving cans for transport to open doubling.

**Other Features.** One of the outstanding virtues of this machine is its inherent ability to be adjusted fully while in operation. Temperature regulation, top roller pressures, crimping frequency, and other settings are controlled by switches or handwheels. The machine is consequently simple to operate for novice personnel.

All settings are made on calibrated scales. Duplication in future runs is accurately obtained. Though the machine appears complex, individual units are relatively simple in construction. Repairs and preventive maintenance have been simplified by a built-in central lubrication system.

## Watch That Advertising Copy for Textiles!

Reminding all concerned that F. T. C. trade practice rules require that advertisements of products composed in whole or in part of "rayon" or "acetate" must clearly and unequivocally disclose the presence of these fibers, a recent issue of the News Bulletin of the National Better Business Bureau, Inc., stated that a number of firms have agreed to cooperate with the Bureau by correcting their advertisements which used such terms as "taffeta," "velveteen," "gabardine," etc., without identifying the fiber content.

Other advertisers agreed to revise copy which featured the wool, nylon, or Orlon content of garments but obscured the rayon content; to cease use of the expression "nylonized cotton jersey" as descriptive of fabrics containing no nylon; to avoid future use of the term "Seersucker" as applied to fabrics having a crinkle produced chemically rather than by weaving.

Two different manufacturers described their "wool fabrics" unqualifiedly so as to imply that their respective materials were made of or contained fur. They both agreed to qualify future copy.

## Tar Spots! Where Will the Axe Fall?

Notwithstanding all of the investigations by various agencies of the source of tar spots in raw cotton and cotton goods, tar is still giving the mills trouble. Even though sources of tar spots have been located (see TI October 1951 and March 1952) and brought to the attention of organizations which are able to help reduce them, they have not done so, according to latest reports. The feeling within the cotton textile industry is that more concrete action by the spinners is necessary to get immediate action by responsible agencies to reduce sources of bale contamination.

Investigations have shown that a major source of contamination is from tar which accumulates in transit or handling (boxcars, trucks, platforms, etc.). However, a recent study of 25 warehouses showed that in 22 of them tar was visible, in such places as platforms, storage areas, or trucking alleys. Tar was also found at the compresses. Very little tar was found at gins, except where asphalt coated pick sacks were being used in the locality and the tar was transferred to the tailgates of trucks.

An important finding recently was that tar is predominant in reused bagging on the cotton bales. And though the ginner was not too guilty of having tar around various areas of the gin itself, he does contribute to the source of tar in cotton when he purchases reused bagging.

Tar is also in new bagging that comes directly from looms, presenting an additional problem.

Although railroads have been notified of tar contamination in boxcars, a recent investigation disclosed that three-fourths of the cars inspected still contained tar.

The bale covering tests on a new type of laminated paper-burlap covering material for baled cotton have been reported on negatively, as well as a new type of baling tie. Strength of material in both instances was the failure. However, studies to find a better bale covering than is in current use will continue.

American mills are not the only ones complaining of contamination; recently more complaints have arrived from abroad about the poor packaging of American cotton and the condition in which it arrives in foreign ports. Pictures substantiate the complaints.

The packaging problem for cotton has been discussed at several industry meetings, but action has yet to be taken.

As for tar contamination, the problem has gone without remedy so long that mill men are now contemplating action which they hope will end the nuisance, irrespective of where the axe may fall.

# Caustic Bath Density and Level

## *adds precision and economy to mercerizing*

*Staff Prepared*
EXCLUSIVE

A NEW DEGREE of precision, economy, and safety, seldom achieved by manual control methods, has been added to the mercerizing process by means of simple instrumentation and automatic controls capable of regulating caustic bath density and level. Around 50 installations have been made since the beginning of the year.

One of the first mills to apply automatic caustic controls in the piece goods mercerizing range was Defiance Bleachery, Barrowsville, Mass. The primary consideration of this mill was quality.

Previously, the caustic bath was manually tended by premium paid operators who would diligently perform titrations and level checks every 5 or 10 minutes around the clock. Their problem in maintaining standard concentration was further complicated by the fact that wet and dry goods have varying rates of pick-up in the bath. At the same time, caustic density in the storage tanks fluctuated due to dilutions from the caustic recovery system. Under these circumstances there was no assurance that piece goods were receiving absolutely uniform caustic treatment.

Many of the defects of faulty mercerization, such as shallow luster, low tensile strength, fuzziness, and poor dyeing properties, could be traced to a weak solution of caustic in the squeeze roll padder. Therefore, with manual controls, the operator would be compelled to keep the strength on the plus side. Here, economy becomes a natural traveling companion to quality.

Caustic soda is not a cheap chemical by any stretch of the imagination. Yet, with manual controls, the caustic bath may be consistently overcharged with caustic soda by as much as 4 per cent. This type of extravagance quickly mounts up the bills. An analysis of caustic consumption shows why.

**Cost Analysis.** A 4-ounce fabric processed at 80 yards per minute means that 20 pounds of goods run through the mercerizing range every minute. On the basis of an 80 per cent pick-up, 16 pounds of 50° Twaddell (25% caustic) solution, or roughly 4 pounds of caustic, are picked up by the goods every minute. Caustic costs about one cent per pound of solution in the box. At this rate, it becomes readily apparent how quickly an over-concentrated solution could run up the cost. At Defiance, the

**MERCERIZING RANGE OPERATOR** Oscar Thomascharette, at Defiance, demonstrates how he used to check caustic density by means of a Twaddell hydrometer before installation of automatic controls. Under the old arrangement, the bath was measured every 5 or 10 minutes around the clock. It was customary to overcharge with caustic to prevent formation of a weak solution. Precise control of bath strength offered by instrumentation enables the operator to determine minimum caustic requirements for perfect mercerization. This results in an over-all reduction in caustic consumption and an enhanced uniformity and quality of the goods. It also eliminates the hazards of skin injury from splashes of concentrated caustic solution, and saves time and effort for the operator.

# Controller

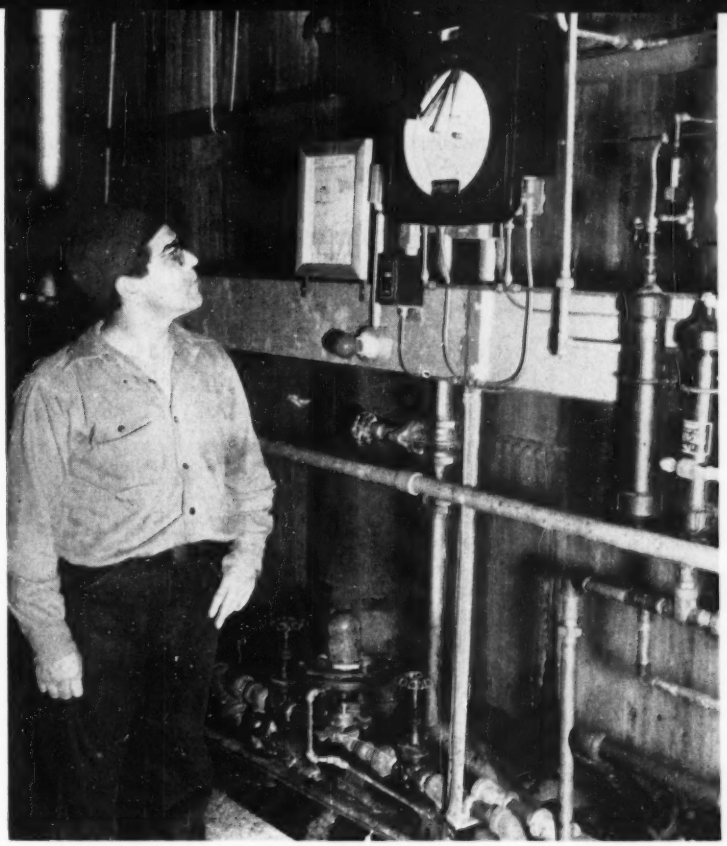
control installation was amortized in a few months, in addition to improving finished fabric quality.

**Instrumentation.** The instruments consist of a Foxboro patented density and level controller with reference chamber and accessories, a control valve for strong caustic, and a control valve for water.

Density is measured by comparing the caustic solution in the saturating bath with a liquid of known density in the reference chamber. Bubble tubes inserted in the bath and in the reference chamber are supplied with a small but steady flow of air at 17 psi. The resulting back pressures are recorded as density by a differential pressure type instrument. The back pressure from the longer bubble tube in the caustic bath is recorded as the bath level. The density controller is mounted on a wall panel not more than 15 feet from the bubble tubes, this distance being limited by the design of the apparatus. Copper connecting tubes, resistant to air leaks, are used throughout.

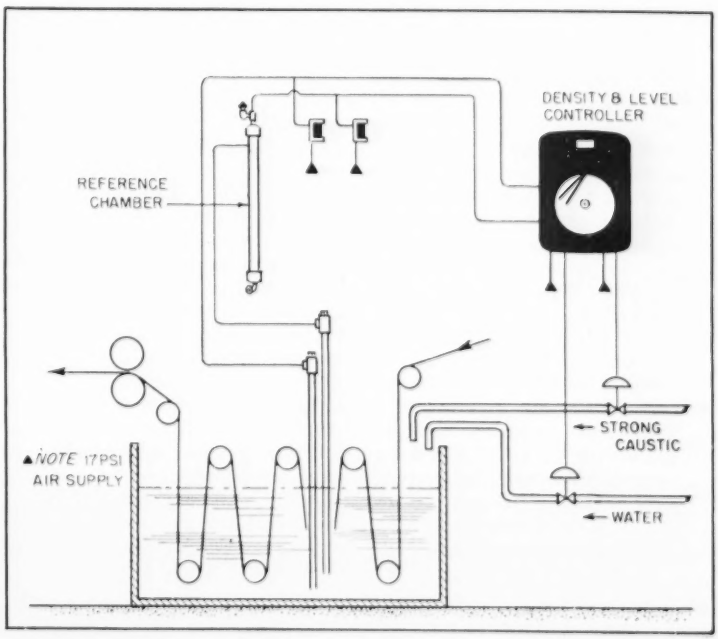
The density controller, by positioning the valve in the strong caustic feed line, continually adds strong caustic (about 100° Tw) as necessary to maintain the desired bath strength. A Saunders patent valve is used in the caustic feed line because of its ability to clear itself of crystallized caustic. It has the added advantage of being a positive shut-off.

The level controller independently positions the water valve to maintain the desired depth of liquid in the tank. Density and level are recorded on one chart. The single record furnishes necessary information to relate conditions prevailing at the time of treatment



**DENSITY AND LEVEL CONTROL** instrument, shown here, provides a reliable method for determining and controlling caustic bath strength. It automatically and continuously supplies the necessary feed of strong caustic and water. Bath level is held constant at all times without frequent inspections and turning of valves. Whether wet or dry goods are processed through the pad squeeze box, uniform conditions are maintained. The density and level recorder provides valuable information in several ways: the condition of the finished material is easily related to the caustic strength at time of treatment; satisfactory runs are easily duplicated by following the established pattern in future runs. Positive door closure of the assembly case guards against fumes, dirt, and moisture. Equipment is trouble-free. Note signal light. It indicates when caustic feed valve is open to maximum limit, warning operator of possible difficulty.

**SCHEMATIC DIAGRAM** of caustic bath density control system.



to the results obtained in the finished material. Furthermore, repeat performances of future runs are easily managed.

Defiance finds that movement of the cloth in the box is sufficient to agitate the solution and thus uses no recirculating pumps. Temperature control or compensation is also not required since a change of 20 F results in a change of only 1° Tw.

## *It Could Have Happened Here*

**(A letter from the Argentine)**

*One of our American manufacturer friends passed along to us the following extract of a letter that he received at Christmastime from a friend in the Argentine. In his transmittal letter, the manufacturer commented: "It is such clear proof of the consequence of government intervention with economic processes. The Peron Government seems to be doing just about what our Government has done, but has been a little bolder in pursuing its policies to their logical conclusion, and has imposed these policies on the industry of a country not as rich or productive as the United States. . . ."*

Everything here is so badly out of joint that I fear all thinking people here will have the saddest holidays they have ever known. Our todays are worse than our yesterdays and our tomorrows promise to be worse than our todays.

Back in July the Government took over the monopoly for marketing the cotton crop. Merchants and factors who over a long period of years spent time and money helping endow the country with a cotton industry have been turned out to graze.

For the time being this blow is not so keenly felt because before it came along merchants and factors were at the end of their financial rope anyhow. As far back as the second half of last year cotton spinners began to fall behind in their payments of raw stock and by the first quarter of the present one merchants and factors had all their working capital tied up with mills unable to meet their commitments.

Mills have heavy stocks of finished goods but can make no cash sales because nobody has any money on hand. The country people quit growing crops because they saw their produce taken from them by the Government at prices which had no relation to the real value of same. Since this occurred food has become so scarce and expensive that it takes all the income of most folks to buy it so they have nothing left for spending on textiles.

The Government now advances farmers 80% of the value of their cotton against chattel liens which liens are passed on to spinners, then to weavers and then right on down the line. Even so mills must find cash for wages, power, taxes and so forth for they are not permitted to shut down or to discharge any help. As one by one the spinners go bankrupt their plants are taken over by the Government at inventory valuations, and owners paid off in pesos now worth about 20% of what they were when machinery was bought and buildings erected. In short, owners are cleaned out but the labor syndicates are happy because they get the plants for a song. The regime is happy for owners have fewer votes than the laborers now in possession of the mills.

I once thought that if I could only get some import permits I could land a volume of business . . . . . Even though I had the permits now, I do not think I could do so for none of my mill friends still in possession of their plants have any cash.

It would be a pleasure indeed to write a cheerful letter, but I in honesty can not do so. Even as bad as the situation is I can not convince myself that it will remain ever so; hence in thanking you heartily for your patience to date, all I can do at the moment is to ask you to bear with me a while longer in the assurance that I shall strive to compensate you if and when circumstances permit.

## $29,000 for Better Cotton in Alabama

Alabama textile mills and Alabama and Florida cottonseed crushers have contributed a total of $29,000 in cash awards to encourage the growing of better quality cotton in Alabama.

The amount reached that total with the donation of $2,000 on Feb. 19 to the Cedar Hill Cotton Improvement Association in Limestone County —winner of the seventh annual Alabama Cotton Improvement Contest. The contests are sponsored jointly by the Alabama Cotton Manufacturers and the Alabama-Florida Cottonseed Products Associations and are conducted by the Alabama Polytechnic Institute Extension Service.

Addressing the Cedar Hill association at a gala celebration at Ardmore, Ala., Joe L. Jennings, president of the Alabama Cotton Manufacturers Association, declared: "The cotton mills have benefited by this campaign. We are able to get a better, more uniform fiber which gives us a better looking finished product and which runs better in our various machines." Mr. Jennings, of Lanett, Ala., who also is executive vice-president of the West Point Manufacturing Co., added that it is "just plain common sense that the manufacturer and the farmer should work together for the common good."

O. N. Andrews, cotton improvement specialist of the Extension Service, disclosed that one-variety cotton growers in Alabama last year received an estimated $13,705,000 extra money because of higher yields and better cotton.

# Training Seamer Operators

**By SAM BOYER**
*Wisteria Hosiery Mills, Inc.*

EXCLUSIVE

THE METHOD by which most hosiery manufacturers train new employees to be seamer operators is to let the trainee work with an experienced operator until she has acquired some degree of proficiency in seaming. The actual length of time required for training the new operator is normally from three to five months; after this time the employee is usually able to seam a sufficient amount of hosiery to justify a change from learner's wages to the higher piece rate.

This system of teaching seaming has many advantages, but rarely is there literature available describing methods and motions to be used in seaming. Therefore, the learner has to use the trial and error method of imitating the demonstration of the experienced operator, who in turn tries to correct the faults of the learner as they develop or become apparent.

**Selecting Instructors.** Too often the instructor selected to do the teaching is chosen on the basis of her skill alone, without consideration of other important factors. The difficulty generally encountered is that many people are skillful in a particular occupation, but they have never fully analyzed the method whereby they get the desired result; therefore, they cannot reduce the process fully into descriptive words, and because of this handicap have little aptitude for teaching the activity to others.

Many experienced seamers, if asked to describe the seaming process, usually say: "I can't tell you, but I can show you how to seam a stocking." This simply proves that the experienced operator may understand the technique of seaming, but has not acquired the phraseology necessary to explain the process, and consequently would be unable to

**FOR REPRINTS** *of this article, write to Editor, "Textile Industries," 806 Peachtree St., N.E., Atlanta 5, Georgia.*

help a new employee when difficulty arises in seaming.

It is true that the preceding statement does not apply to all experienced seamers, for some are quite well qualified as instructors; yet even the most competent instructor can be benefited by the study of good literature on the technique of the activity to be taught.

Repeated demonstration alone is not sufficient in training seamer operators, but intelligent conversation must also be used to communicate or describe the process, correct errors, and lead the learner on to the goal of becoming an efficient operator.

The success of the teacher in imparting her seaming skill to another will depend upon how effectively she can analyze the difficulties of the seamer learner, and then guide her to corrective action by repeated demonstration and verbal instruction.

**Foreman Instructors?—No!** The question will naturally arise as to why the foreman cannot teach the technique of seaming hosiery. In the first place, foremen are generally selected for grey hosiery departments because of their mechanical ability and leadership qualities, and not because of their aptitude for teaching. They are not usually skilled in hosiery seaming, but should understand the method involved so that they can follow-up the training procedure and, whenever necessary, make suggestions to the teacher for instructing the new operator.

With today's increasing competition in the hosiery industry, the foreman may be burdened with other duties beside teaching new operators, but his duties should be planned to allow time to supervise and direct the seamer operator training program. The foreman should outline the instruction to be used by the teacher. Then when he is later questioned about the work by the new operator, his replies will indicate that he is in complete accord with the teacher, and he will inspire confidence in the new employee by showing that he knows his job.

**Hiring Seamer Operators.** In hiring and inducting new employees, the method will depend upon whether the personnel department or foreman is responsible for the required records and instruction. Record keeping is important in any employment procedure and usually consists of: application history card, group insurance payroll deduction authority card, payroll allotment authorization for the purchase of U. S. Savings Bonds, employee's withholding exemption certificate, and time-card for punch-clock, all of which must be explained to the new operative. Some companies also require visual and aptitude testing as evidence of suitability for employment.

After hiring the new employee, it is a good policy to show her the employees' entrance, how to find the time-card in the rack, method of punching time-clock; also explain the hours that she is to work and the pay scale. Rules about recess and lunch period and any other company policies should also be explained. At this time introduce the new employee to her supervisor if possible, and finally tell her when to report for work and designate the department.

**On Reporting for Work.** When the new employee arrives on the job, she should report to the department head, who should instruct her in the following items in regard to handling hosiery in process:

1. Wear no jewelry, buttons, or other things on garments which, when coming in contact with stockings, will snag them.

2. Keep fingernails perfectly smooth and see that there are no hangnails.

3. Keep hands smooth and soft by the constant use of hand cream or lotion. (Instruct her to use hand cream after every washing of her hands—most hosiery mills furnish hand cream for employees.)

4. When handling stockings, lift them clear. Do not drag them over any surface whatsoever.

5. Watch carefully for snagged stockings in seaming. When a snag is found, make sure that the object which caused it is removed or report it to the foreman who will cover it or make it smooth so that it will not snag another stocking.

6. Keep machine and table top clean at all times (this is one of the many things that the seamer operator can do to prevent damaged or picked stockings).

The interview should be concluded by the foreman, who will probably give additional instruction to the new employee. However, he should remember that only a given amount of instruction can be absorbed at one time, and it will be necessary to cover the same ground again so that it will be remembered.

The trainee should then be introduced to the seamer operator who is to teach her. She is then conducted to the locker room to dispose of her wraps or other belongings. Location of rest rooms should be indicated and the trainee returned to the seaming room for the first instruction in seaming.

**Chair Adjustment Important.** The first consideration for the new operator is a chair adjusted to give her proper posture while at work. The correct height for chair seat, which must include any cushions to be used by the operator, will be the height that allows the operator's upper lip to be exactly on level with the sewing machine top. This rule holds good for either Union Special or Singer hosiery seaming machines.

Have the operator seated in an upright position directly in the chair, then raise or lower the back of the chair or move it forward or backward until it supports her back at a place slightly above the hips. See that the chair is comfortable, as careful attention to this detail will greatly aid production progress, not only for the trainee but for the experienced operator as well. Chairs that are non-adjustable, or have splintered backs or seats, and also uneven legs, should be replaced.

Several other factors that affect production and training should be carefully considered by the foreman before placing the trainee at the machine:

**Check Machine.** The sewing machine should be checked in actual operation to ascertain that it is in good condition. The transmitter

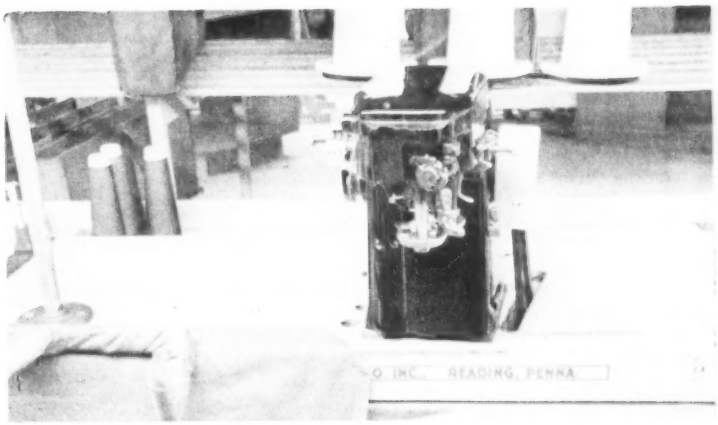
should be properly adjusted to insure quick starting and stopping, as improperly adjusted brakes cause machine breakage by entangling stockings in the sewing mechanism. Poor starting causes excessive fatigue and low production. Use smooth-running V-belts. Adjust the clutch pedal to suit the type of shoes the trainee will wear while working.

**Lighting; Air-Conditioning.** See that the lighting is adequate for the seaming operation—reflectors may need cleaning or new lamps may be needed over the trainee's table—for eye-strain will adversely affect training and production. Air-conditioning is very essential for operator comfort and satisfactory machine operation, but if the sewing room is not air-conditioned, some attempt at controlling sewing temperature and humidity should be made.

Avoid distracting noises in the seaming room, as loud talking, singing and whistling, and other unnecessary noises disturb operators while concentrating on their work. Poor foreman-labor relations, bad quality knitting, and also inadequate sewing machine fixing adversely affect morale and production.

**Which Seaming Method?** The next problem confronting the foreman is that of deciding which of the basic methods of seaming hosiery the instructor is to teach. The first method to be considered is one in which the sewing machine is placed squarely on the table with the operator seated directly in front of and facing the machine. The work passes from right to left in a line parallel with the front of the seaming table. This method produces best quality, but is disappointing from the standpoint of production.

The modern and highly productive method of seaming hosiery is to place the machine at an angle of 15 to 30 degrees to the left on the table as one faces the table front squarely, with the right foremost corner of machine flush with the table front. The operator then sits at an angle of approximately 45 degrees from the table, and faces the fabric uncurler instead of machine front. She feeds the stockings almost directly away from her into the machine sewing mechanism, left hand holding left selvage, right hand holding right selvage, literally driving the stocking into the machine (see Photo No. 1).



**1. SLOT IN TABLE TOP** has been cut at an angle of 70 degrees from the right front, instead of the usual 90-degree angle. The right edge of the seaming machine is at an 80-degree angle, which places the front of the machine 10 degrees to the left when facing the table squarely. The machine is fastened to the table by the hold-down screw only, allowing the seaming machine to be changed to any reasonable angle quickly, because different operators prefer various angles.

**Advantages of Oblique Method.** The advantages of this oblique method of seaming are: It gives the highest production with least fatigue to operator; it allows the operator to see both sides of the stocking as it is fed into the machine, insuring good matching at heel panels, narrowings, shadow-welts, and welts; and the system is not difficult to teach seamer operator trainees.

This oblique system, combined with a few basic points from the older method wherein the machine is squarely mounted, is the one to be considered in this discussion of training hosiery seamer operatives.

**Seamer Training Begins.** When starting actual training, it is best for the instructor to be seated at the machine with the trainee on her left. The instructor should seam a few stockings and at the same time illustrate and explain the entire process, such as starting and stopping the machine, inserting the fabric, and other essential points.

It is best to slow the machine to a speed of about 2,000 rpm to start training. This can usually be done by letting the belt run slack if small drive pulleys for the transmitter are not available.

Before the trainee is seated at the machine, she should be taught how to unravel a stocking.

Although employees are generally hired on the basis of their aptitude and fitness for the job, many of them have never before operated a power sewing machine. This means that they will have a natural fear of the machine which must be overcome. To accomplish this, seat the trainee at the machine and have her practice starting and stopping without attempting to sew any hosiery.

To safeguard the woman employee, carefully explain the danger of injury to the fingers if caught between the feed-cups, or any other part of the sewing mechanism, including the belt running over the machine pulley. Illustrate the approved safe methods of handling material, threading, and turning machine pulleys by hand for threading and loading purposes.

Before considering the best motions and time elements involved in hosiery seaming, explain the layout and handling process. Most hosiery mills pre-set the stockings in a steam process before seaming,

**2. EXACT POSITION OF CHAIR** in relation to sewing machine and table is shown here. Note that clutch pedal is set squarely with chair. Positions of tray, stocking holder, work rod, and stand may be clearly seen.

thereby eliminating picks and pulls to a large extent and also improving the quality of seaming. The stockings are tied in dozens, fastened at the welt to a rod for steaming, and arrive at the seaming table hanging vertically on the rods which are placed in holders on the left side of the seaming machine. The point at which the stockings are removed from the rod for seaming is about 18 inches to the operator's left, and about the height of her head when she is seated at the machine (see Photo No. 2).

A cloth-covered trough is fastened parallel to the table front on the operator's right for holding unseamed stockings, a seamed stocking holder to receive up to 24 seamed stockings is placed six inches to left of the machine on the table, and a magazine tray is placed on the floor parallel to operator's left side to receive full dozens from the holder.

It is best to divide the job of seaming a stocking into simple, elementary movements; this will be of considerable help to the instructor in quickly pointing out and correcting useless motions of the trainee before they become fixed habits.

Naturally, during the first few weeks of training the learner will be unable to seam a stocking in the time required for the various motions as specified in this article, but the instructor should encourage the trainee towards the goal of meeting the time limits for each element. A knowledge of time study and motion economy, which are not difficult subjects, will be a valuable asset to the instructor or supervisor.

With regard to the motions pictured here, it should be understood that Photos No. 4, 5, and 6 show the operator preparing the dozen pairs of stockings for the seaming process, and the motions illustrated will take place only one time per dozen, which is when the stockings are removed from the rod and placed in the trough. As an example, an operator who seams 40 dozen daily will repeat the motions shown in these photos exactly 40 times daily.

But the same operator who seams 40 dozens daily will have to go through the motions illustrated in Photos No. 7 through 28 exactly 40 times 24 (the number of stockings in a dozen) or 960 times daily. Thus, it can be seen that the several seconds that can be saved on the seaming of each stocking will amount to quite a few minutes in a day's work.

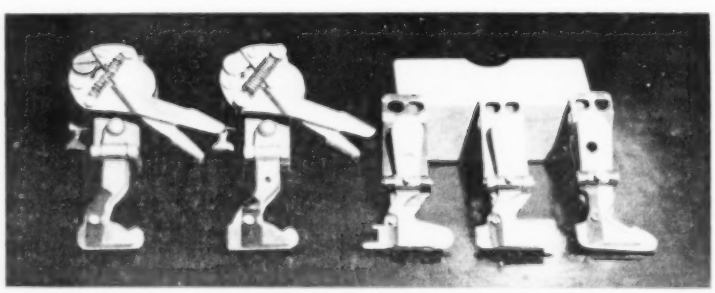
Experience has shown that a further saving in time and motion can be realized by removing two dozen stockings from the rod at a time instead of one dozen, as illustrated in Photos No. 4, 5, and 6.

**The Seaming Operation.** The actual process of seaming a stocking is clearly shown in Photos No. 7 to 28 inclusive. Not all of these photos depict seaming motions, however. Some illustrate technical points about the hosiery being seamed.

A study of the seaming motions of an operator will show that a stocking is usually seamed in from 17 to 20 seconds. After a few weeks of training, it will be found that the trainee can seam a stocking in the same length of time as an experienced operator. However, the reason that the learner cannot seam as many dozens per day as the experienced operator is that she does not have the rhythm that comes only with experience in seaming. For instance, at the end of every 20-second period the experienced girl will seam a stocking, whereas the trainee may seam one stocking in 20 seconds and use from 40 to 60 seconds in seaming the succeeding stocking.

After about three weeks of training, it is advisable to seat the

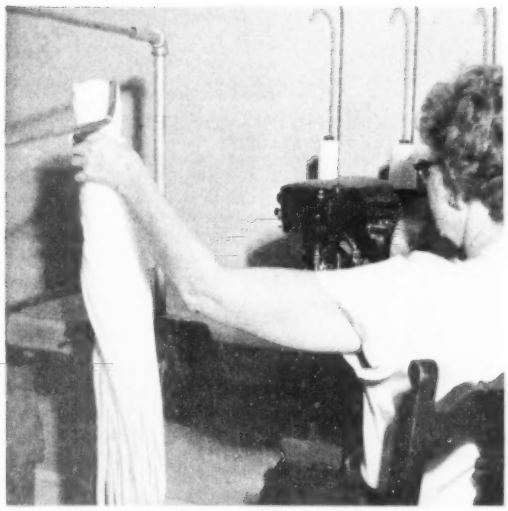
**3. SEAMER UNCURLERS.** From left to right: Standard Singer uncurler, a type of Singer loopless toe uncurler, latest type Union Special loopless toe uncurler, standard type Union Special uncurler for both looped toe and loopless toe hosiery, Union Special uncurler of older type not satisfactory for loopless toe seaming.



new trainee next to an efficient operator who has a good record for quality and production in seaming. By so doing, the trainee will subconsciously absorb the uniform rhythm of the experienced operator's movements while seaming, and will reach a high production level much quicker than when seated beside another learner or person of low productive capacity. Of course, the instructor should tactfully point out the reason for low production.

**Keep Training Costs Low.** It is important for management to guard against excessive training costs, because abnormal outlay will be reflected in the selling price of hosiery produced under this handicap. Consequently, if a manufacturer fails to keep abreast of improved training and operating techniques, he cannot keep the costs of his product in line with competition and his sales are bound to lag.

In order to reach the largest potential market, hosiery must be produced so that it can be sold at a price that the average woman or girl can afford to pay. To produce quality hosiery at a lower cost, manufacturers will have to resort to time study and motion economy, including plant layout, in order to utilize labor more efficiently.



**1. OPERATOR REACHES UPWARD** with left hand, grasps a dozen stockings just below point where string is tied, sweeps dozen off end of rod.

**5. BRINGING DOZEN TO STOP** in front of her, she instantly grasps end of string tied around dozen in right thumb and forefinger, unties dozen with quick jerk, and drops string forward on table for collection at end of shift. The entire motion is one sweeping movement of the left hand, met with a simultaneous movement of the right hand in untying the string and throwing it forward on the table.

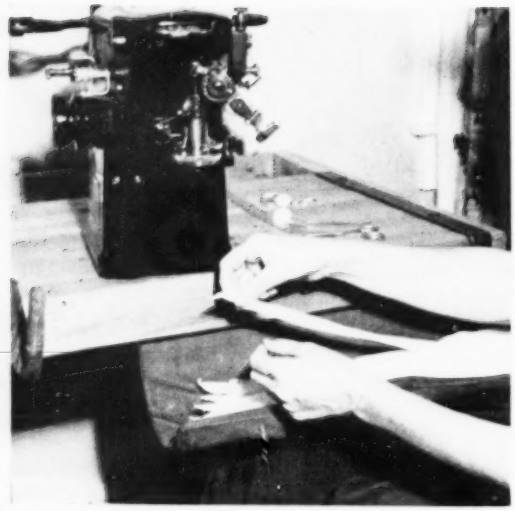
**Time required** for motion started in Photo No. 4 and stopped after untying dozen in Photo No. 5: 3 seconds.

COMMENT: The strings around each dozen should always be tied in a neat bow in the knitting department. If they are tied in a knot, the seamer will have to cut the strings with her seissors, losing 12 seconds of time for each dozen seamed. The seamer operators can pick up the strings at the end of the shift and place them in a nearby receptacle for further use by knitting or grey inspection departments.

**6. INSTANTLY GRASPING WELTS** of stockings in right hand at a place above the left hand, operator releases hold with left hand and then grasps the stockings near the toe with left, swings body around to right as shown in photo and deposits stockings in the trough in front of her, ends of toes being placed exactly in center of machine front.

**Time required:** 3 seconds.

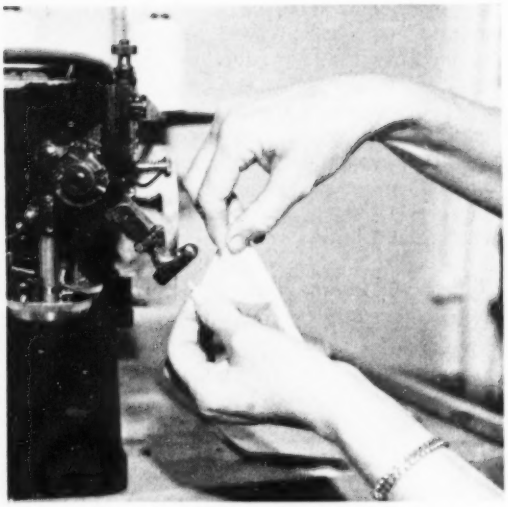
COMMENT: There is a tendency on the part of some operators to fumble with the arrangement of welts after placing them in the trough. This unnecessary motion should be discouraged except in cases where oil or sizing has caused the welts to become stuck together, which trouble can be easily overcome by proper supervision in the knitting room.



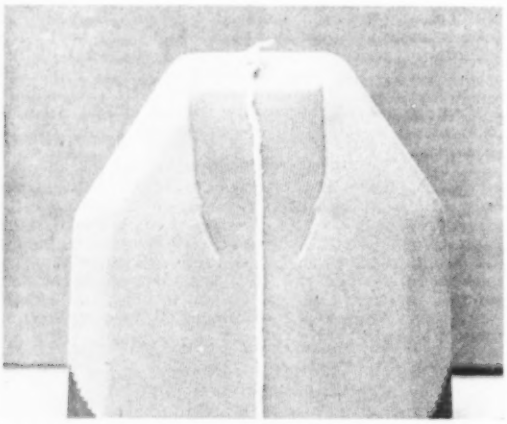
**7. OPERATOR PICKS UP TOE** of stocking in right hand and, with simultaneous movement of left hand, folds and unrolls the selvages on either side of the toe over the right index finger with right palm of hand turned down towards trough.

**Time required:** 2 seconds.

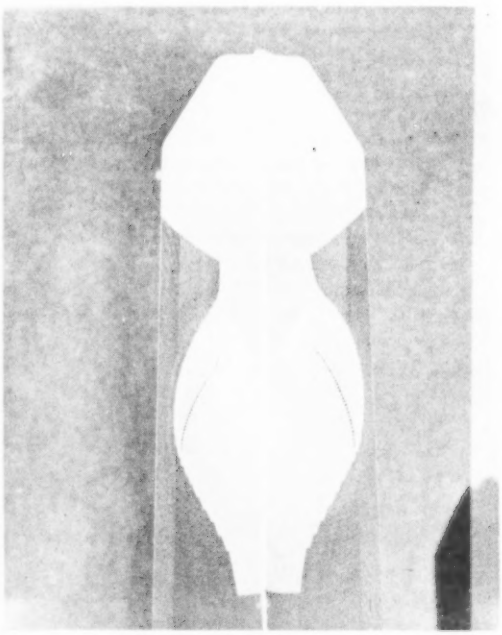
COMMENT: It is necessary to have the toes of stockings directly in front of machine center, so that when operator picks them up, the toes will be directly under the guide for quick loading of uncurler. Operators have a tendency to place the toes too far to the left when facing the machine, and will pick up the stocking about the middle of the leg instead of the toes. It is then necessary to slide the stocking through the fingers until the toe is reached before it can be inserted in the fabric uncurler. This will result in unnecessary motion, causing loss of time; and it has been found that the excessive handling will cause some picks.



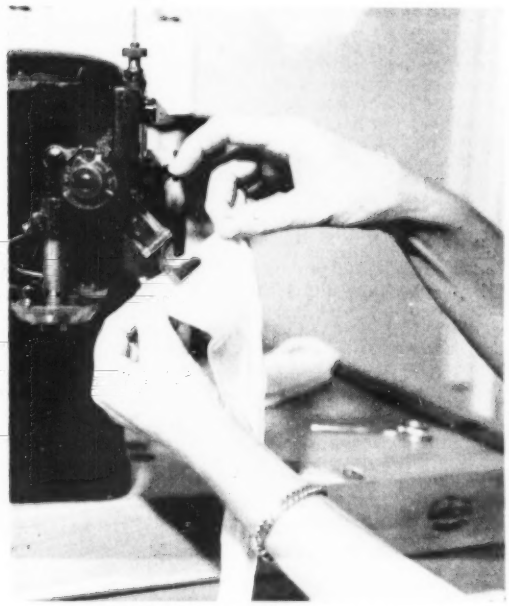
**8. CORRECT METHOD** for holding loopless toe stockings preparatory to inserting them into the fabric uncurler is demonstrated in this close-up of the completed motion described in Photo No. 7. Note that the toe-tab is pointing directly upward. In cases where the toe-tab has a tendency to fold inside the toe, a slight upward flip with the end of the right forefinger will push the tab out of the stocking and into the correct position shown.



**11. DROP-OUT IN THIS SEAM** is a result of the stocking being disturbed after it was properly placed in the uncurler. If the fabric uncurler is not of correct design or is not set properly in relation to the feed-cups, it will be necessary for the operator to assist the toe in the line of feed; and this usually results in drop-outs and pleats in seaming the toe. Help the operator by setting the uncurler into the feed-cups as far as possible, at the same time retaining a few thousandths of an inch clearance between both sides of the pilot and the front and back feed-cups.

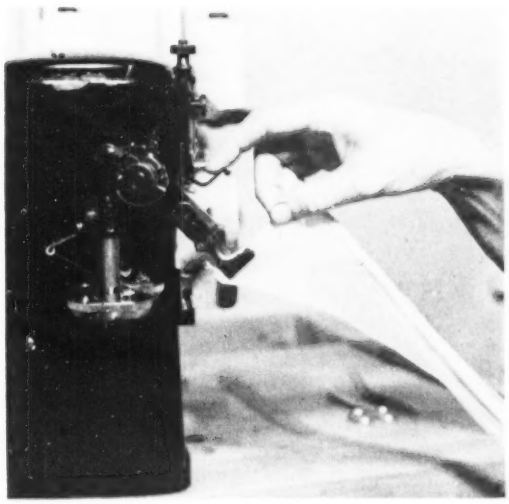


**12. THIS MISMATCH** was caused by the uncurler being improperly adjusted. If the uncurler is set too close to either the front or back feed-cups, or if it is set too high in relation to the stitch finger, mismatches will result because the sewing machine will pull one side of the stocking faster than the other side. Help the operator by properly adjusting the fabric uncurler, for no amount of skill on the part of the operator will overcome inadequate machine fixing or adjustment. By following these suggestions, it is possible to greatly improve the quality of seams produced by most operators.

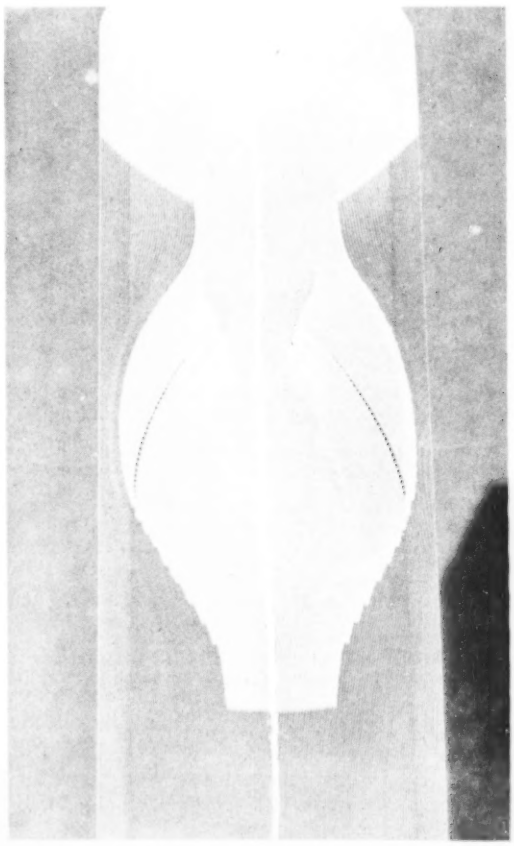


**9. CONTINUING TO HOLD** both selvages of the stocking between second finger and thumb of right hand, operator raises right forefinger to position for tripping fabric uncurler release while left forefinger and thumb continue grasping stocking directly underneath the toe-tab. The distance between the points of holding by the right hand and the left hand is about two inches. The stocking is then loaded into the uncurler by a slight forward movement of both hands, and drawn backward towards the operator to remove folds in the selvage and to place the toe-tab on the pilot of the uncurler.
**Time required:** 2 seconds.

COMMENT: There should be a distance of at least two inches between the points of holding by the right and left hand so that when the stocking is inserted in the uncurler, sufficient backward movement will be obtained to unfold the roll in the stocking selvages within the uncurler. If the selvages are not properly unrolled, they will not be covered by the seam and an unsightly amount of fabric will appear in the seamed toe.

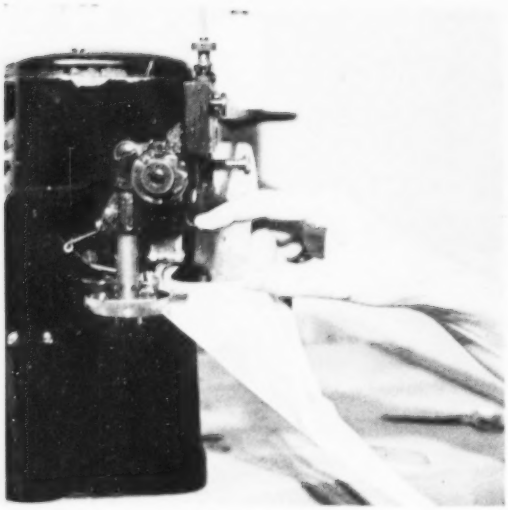


**10. TOE-TAB RESTS** upon pilot of fabric uncurler in this close-up of completed motion described in Photo No. 9; the selvage has been properly unrolled and is held at correct height for inserting between the feed-cups; right forefinger rests upon uncurler release preparatory to tripping and inserting fabric into machine sewing mechanism; and, most important of all, the left hand has released its hold on the toe of the stocking.



**13. STOCKINGS KNITTED ONE-SIDED** can be a problem in any seaming room, unless there is complete cooperation between the knitting and seaming departments. In seaming this stocking that had been knitted one-sided, the operator held tighter on the left side while in the foot, thereby gaining enough material to allow the heel panel to be run at an even pull with the right side, with the result that the wale lines are fairly parallel with the seam. If the operator had waited until she had seamed above the point where the narrowings converge in the heel and then exerted extra pull on the left side, the left heel panel would have been seamed at an angle—making a reseam—or if passed by inspection, could have been graded only a poor second. By careful seaming, it was possible to grade the stocking irregular.

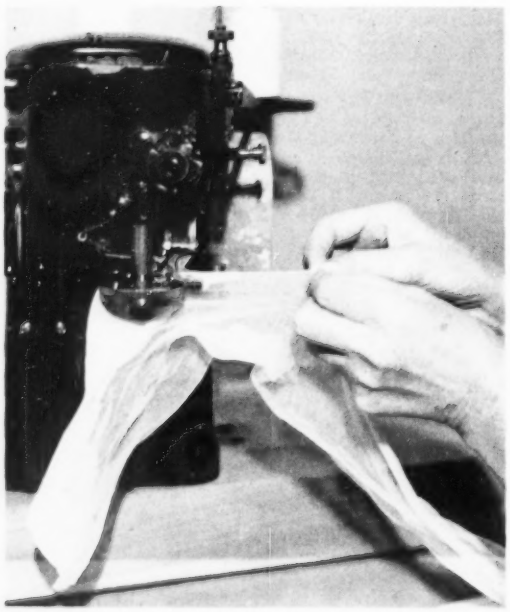
(The author reports that an experienced seamer looked for three days after being requested to find a stocking that was one-sided, until she finally found the exhibit shown here—good work being done by knitting department.—Eds.)



**14. RIGHT FOREFINGER** trips fabric uncurler release and drops it into operating position, carrying the stocking toe in between the feed-cups. And with simultaneous motions, right thumb and forefinger grasp right selvage (aided by other fingers of right hand), left thumb and forefinger grasp left selvage (aided by other fingers of left hand). Instant pressure of both feet on the clutch pedal starts the machine to sewing the foot. Machine is stopped when toe-tab comes under point of stitch finger. Operator severs stitch chain to desired length on toe of stocking by a forward and downward jerk of the left hand.

**Time required:** 1 second.

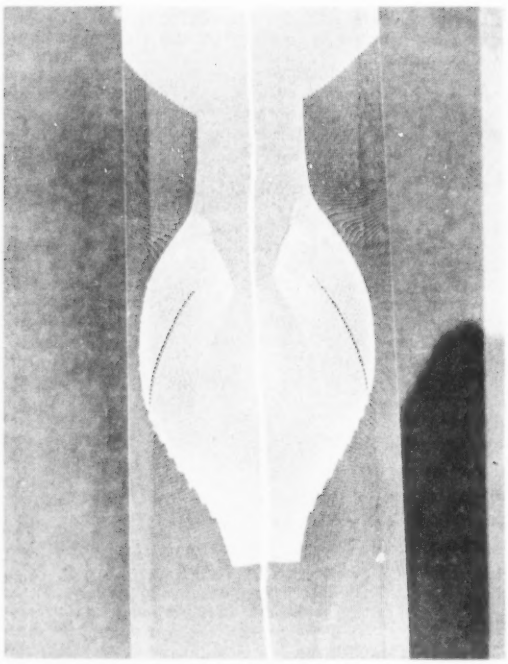
COMMENT: The motion described here applies to the first stocking only that is seamed from each lot or unit. Otherwise, there will be a stocking attached to the chain of stitches which must be cut when the toe of a stocking arrives under the stitch-finger point. It should be understood that there is no perceptible stop in any motion from the beginning in Photo No. 9 to the end shown here. Some operators complete these motions in 3 seconds, but average time for most experienced operators is 5 seconds.



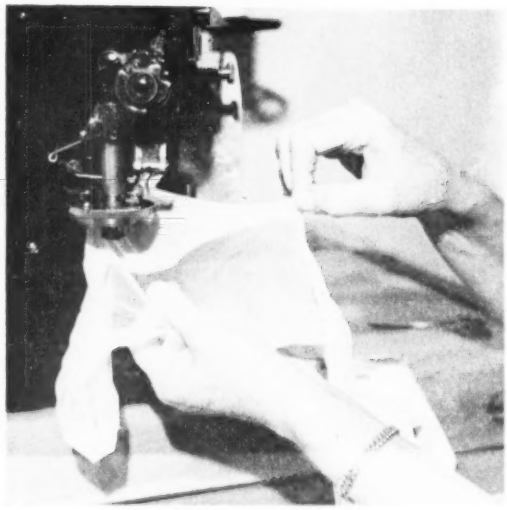
**17. OPERATOR HOLDS RIGHT SELVAGE** between thumb and forefinger of right hand, left selvage between thumb and forefinger of left hand, with at least 1½ inches of heel panel showing on side of fabric uncurler next to operator. The point of holding is 2 inches back of top of heel panel, with both selvages level with rivet in the uncurler. The machine is started in the usual manner and the heel panel is seamed to a point just above it in the main part of the stocking. The operator's hands hold the stocking selvages so that the heel panels match exactly, and do not loosen the hold until the top of the heel is past the point of the needle without stopping the machine. When the heel panel is past the needle point, the machine is usually stopped and the operator quickly straightens the unseamed portion of the stocking with a backward motion of the right hand.

**Time required:** 3 seconds.

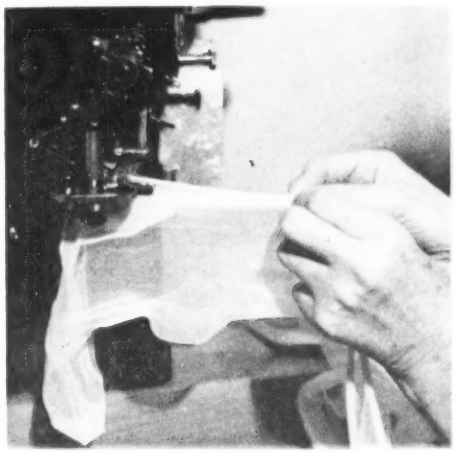
COMMENT: Operators frequently lose time by straightening the stocking too often. Each stocking needs only to be straightened one time by the backward flip of the right hand.



**18. NO ATTEMPT WAS MADE** to hold this stocking even when seaming the instep, nor did the operator stop at the apex of the heel pocket to make certain that the heel panels would match when seamed. An effort was made to match the heels after the tops of the panels were within 1½ inches of the fabric uncurler, and this resulted in the heel panels being seamed diagonally instead of squarely. The wale lines above the heel in the main fabric converge at a point about ¾ of an inch above the heel, and then diverge again. It is a very unsatisfactory stocking, could not be classed as first quality, and is the fault of the seamer. Lack of supervision when training the seamer is probably the reason for this unsatisfactory performance.



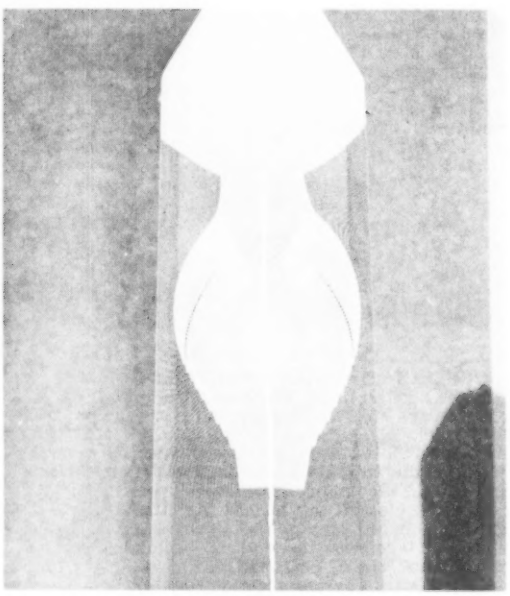
**15.** ACTUAL SHAPE OF STOCKING being seamed is shown by operator. The outstanding heel pocket and built-in curve to the upper part of the heel increase the hazard of drop-outs for the seamer. Another source of trouble for the seamer is stockings that have widening holes along the selvage in the heel, set about two to four needles in from the edge. A deep bite into the stocking with the needle is required to cover up the so-called back-rack holes. However, modern knitting room practice has overcome this difficulty to a great extent. The firm holding illustrated in Photo No. 16 also helps prevent drop-outs of curved heels and heels having back-rack or widening holes.



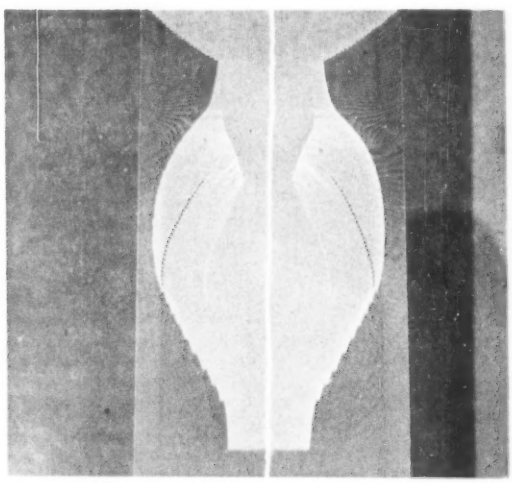
**16.** AFTER THE STOP described in Photo No. 14; the operator again starts the machine by depressing the clutch-pedal with both feet and, holding the right selvage in the right thumb and forefinger and left selvage in left thumb and forefinger, keeps both selvages about on a level with the bottom of the rivet in the fabric uncurler. She allows the machine to draw the fabric from between the thumbs and forefingers of both hands with a sliding movement, increasing the tension of holding on either side that may be running short. Upon reaching the point shown here, the operator slows the machine to about half-speed and slides her hands back from the machine, glances at tops of heel panels to make certain of matching, and, if necessary, holds slightly tighter on the side that feeds too fast or is running short; then she stops momentarily at position illustrated in Photo No. 17.

**Time required:** size 9½ stocking, 18 stitches per inch, 2 seconds.

COMMENT: It is absolutely essential that operators check heel matching at point shown here instead of waiting to position reached in Photo No. 17, because it is then too late to pull the short side of the stocking.



**19.** A FAIR JOB OF SEAMING from toe through heel splicing was done on this stocking. However, the wale lines in the main fabric above the heel converge and are not parallel with the seam, showing that the operator held the fabric too tight when entering the 15 denier nylon fabric. The operator should always keep a looser hold on the fabric when leaving the reinforced heel and entering the lighterweight, main part of the stocking.



**20.** PERFECT STOCKING SEAMING like this can be easily produced by having the seamers follow the instructions outlined in this article. The wale lines are exactly even along the entire seam, especially at the critical point above the heel. The heel panels are square, and all other points match perfectly. (This stocking was seamed by the same operator who produced the examples of imperfect seaming shown in other photos of this article.—Eds.)

**21. AFTER SEAMING PAST THE HEEL PANEL,** as explained under Photo No. 17, the operator should attempt to seam all the way to the top of the stocking (as shown in Photo No. 22) without stopping, but slowing down momentarily before reaching the top of the main narrowing in the leg to make sure that the top narrowing dots match. The right and left selvages should be allowed to slide between the thumbs and forefingers of the right and left hands respectively, the ends of the index fingers being manipulated in such a manner that most of the curl will be taken out of the stocking before the rolled portion enters the fabric uncurler. Average stocking, size 9½, finishing 33 inches, not too loosely knit, made of 15 denier nylon used in timing.

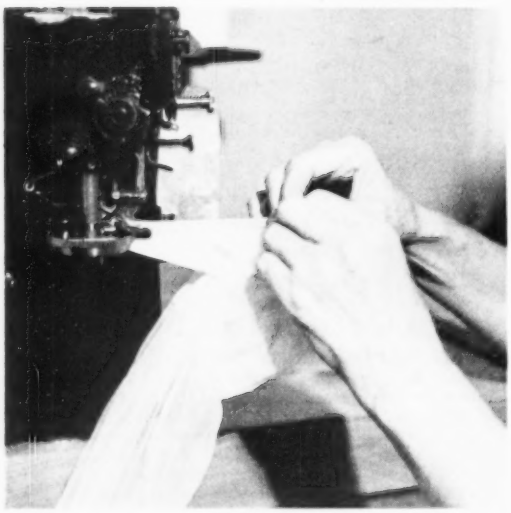
**Time required:** 5 seconds.

COMMENT: New operators will naturally grasp either side of the stocking, seam two or three inches, stop and take a new holding, then seam about the same distance again. This method is time consuming and makes an ugly seam. Encourage use of the sliding method early in the training course.

**22. PAUSING MOMENTARILY** to make sure the shadow welt is matched perfectly and to see that the narrowings will be an equal distance from the seam, the operator moves her hands back to a point where the double ply of the welt joins, so that the matched edges of the shadow welt will pass the needle before stopping when her fingers nearly touch the uncurler.

**Time required** to stop, check matching, then seam past edges of shadow welt: 2 seconds.

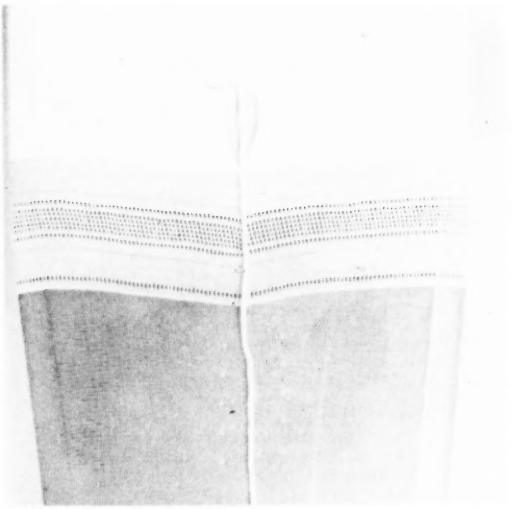
COMMENT: If the operator waits too long to match the main narrowings or the top narrowings and then has to pull on the tight side of the stocking in order to match, the narrowings on the short side of the stocking will be drawn closer to the seam and result in sub-quality production. After matching the shadow welt as shown here, the hands must follow the stocking without changing the holding, then stop when the fingers nearly touch the fabric uncurler—but do not run the double ply into the uncurler yet.



**25. GRASPING THE LEFT-HAND SELVAGE** of the welt with her left hand, the operator holds the right-hand selvage in like manner with right hand and with a circular motion of both hands seams around the welt until it is closed within about 1½ inches of the welt line. She then allows both plies to run out of the uncurler, and stops when the stocking has just cleared the end of the stitch tongue. A slight downward jerk of the stocking as the operator drops it causes the welt to become straight by pulling the inside ply from within the vent where it catches in seaming around the welt. The seaming chain holding the stocking to the machine is not cut yet.

**Time required:** 2 seconds.

COMMENT: The operator should be cautioned about exerting too much backward pull with the last three fingers of each hand when seaming around the welt, as this may prevent the stocking from feeding freely off the stitch finger.



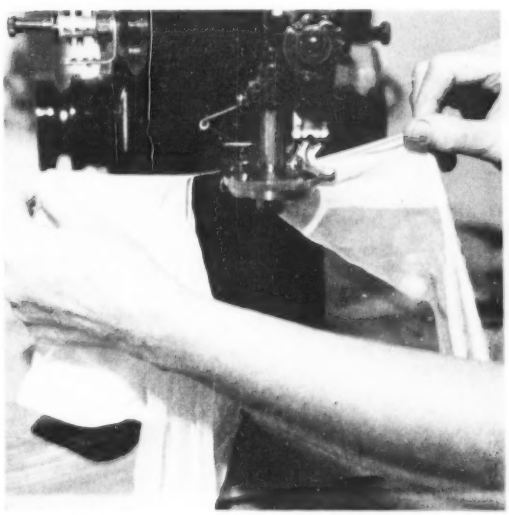
**23.** EFFECT OF SEAMER WAITING TOO LONG to match the edges of the shadow welt is demonstrated in this photo. Examine seam near junction of shadow welt and main. Narrowings are closer to the seam on one side than on the other. And the sudden effort at matching when the stocking was nearly seamed through the narrowings has resulted in too much fabric being drawn into the seam on one side near the bottom picot.

**24.** AFTER SEAMING TO THE STOP mentioned in Photo No. 22, the operator with her right hand quickly grasps the two inside plies at a place on the selvage about two inches back from the junction of the plies where the welt is turned. With a simultaneous motion of the left hand, she reaches upward so that forefinger catches the right-hand outside ply and the thumb catches the left-hand outside ply in the manner shown here, pulls both outside plies downward so that they will not go through the uncurler, depresses the pedal until the stocking is seamed up to a point where the right thumb and forefinger come near the uncurler, and then stops.

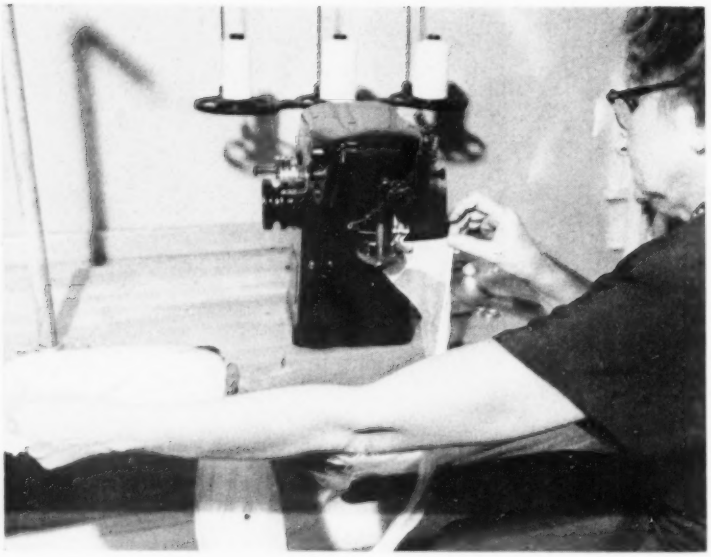
**Time required:** 2 seconds.

COMMENT: After the right hand is in position, it must hold rather firmly to prevent the downward pull of the left hand; this would cause the stocking to be pulled below the needle path, resulting in a drop-out. The drop-out is classed as a re-seam and must be repaired by the seamer in most hosiery mills. Re-seams are classed as a serious waste of time, and also result in production of sub-quality merchandise.

**26.** WITH STOCKING COMPLETELY SEAMED and suspended from the machine by the chain of threads as shown here, the operator selects another stocking from the trough in front of her and repeats the motions described for Photos No. 7, 8, 9, 10, and 14, with the exception of cutting the stitch chain as explained in Photo No. 27.



**27.** MACHINE IS STOPPED with the toe-tab of the stocking just under the point of the stitch-finger. The stocking which was left suspended from the machine has a chain of stitches approximately ¾ inches long connecting it to the toe-tab held between the feed-cups, and the operator severs the chain midway between the two stockings by grasping the seamed stocking in the welt with her left hand and giving it a forward and downward jerk which engages the chain in the cutter. This method of seaming stockings eliminates the necessity of any further trimming by a clipper or the inspectors. (Patent No. 2,334,599 was issued by the U. S. Patent Office to the author a number of years ago covering a novel chain cutter and the novel method of seaming successive stocking blanks. It was at once assigned to Union Special Machine Co.)



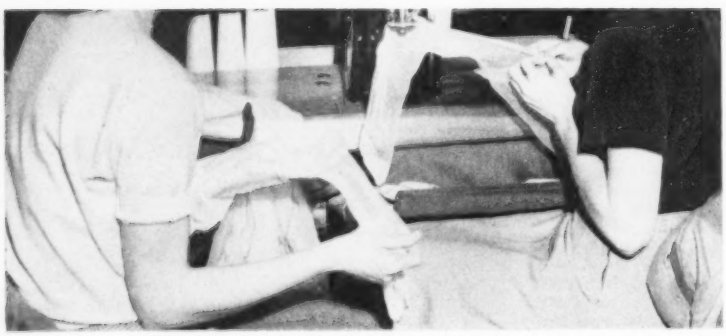
**28. SEAMED STOCKING** is placed in the holder with her left hand. The motion is merely a continuation of the movement required to cut the chain stitches. The welts should always be kept even when the stockings are placed in the holder as it will greatly aid the operator when placing the seamed dozen in a tray for inspection.

An allowance was made in time for severing the thread chain on the first stocking seamed, so it will not be necessary to add additional time for the motion described here. Actually the stocking can be cut loose and placed in the holder quicker than the loose thread chain can be cut on the first stocking seamed; the welt of the stocking affords a much easier holding for the clipping movement.

**29. WHEN THE DOZEN** has been completely seamed and placed in the stocking holder, the operator then grasps the welts in her left hand and holds the dozen high enough to grasp the toes in her right hand, swings her body to the left and deposits the stockings in the magazine tray which is located on the floor on the left side of her chair. As the operator turns her body again to the sewing machine, she sweeps another dozen to be seamed from off the rod, as illustrated in Photo No. 4.

**Time required:** 3 seconds.

COMMENT: Some operators make the mistake of picking up the dozen in the right hand and then transferring the hold to the left hand before grasping the toes in the right hand. Much handling can be averted by picking up the welts in the left hand as recommended here.



**30. REMEMBER,** rough hands are the cause of many pull threads. Apply hand lotion regularly and keep them smooth.

NOTE TO MANAGEMENT: It pays to provide at all times hand lotion in convenient places, easily accessible to operatives.

***FOR REPRINTS** of this article, write to Editor, "Textile Industries," 806 Peachtree St., N.E., Atlanta 5, Georgia.*

# Making Dynel Yarn on Worsted Systems

By J. H. PURSE, H. L. PERO, and W. W. RANKIN
*Carbide and Carbon Chemicals Company*

INTEREST IN DYNEL for military application has prompted a complete review of all processes for making top and spinning yarns of this new fiber on the worsted systems. As a result of development work carried on by Carbide and Carbon Chemicals Company with the cooperation of the Barre Wool Combing Company, the Wool Department of the Lowell Textile Institute, and the Textile Research Department of the American Viscose Corporation, the manufacture of dyed and undyed dynel top and the spinning of dynel in worsted-type yarns are now commercially feasible.

EXCLUSIVE

DYNEL PROCESSING depends on two guiding principles. The first is the handling of the fiber to utilize the advantages of its thermoplastic nature. The second principle may be expressed as always giving the fiber "room to breathe." This means keeping twist to a minimum and maintaining an open, lofty sliver during gilling, drawing, and spinning.

Processing into undyed top is accomplished most satisfactorily by carding, followed by two or three pin draftings. Tops may also be made by carding and three operations of gilling. Top making after dyeing can be handled best on a gill with coarse pinning followed either by gilling on a finisher gill or by pin drafting. In drawing and spinning, usually fewer operations are required to produce a given count than are necessary with the conventional layout. Processing may be done on any of the worsted systems: English, French, or pin drafters, or on the American system.

In making yarn from dynel, it is necessary to determine, in addition to the usual properties of count, strength, and evenness, the boiling water shrinkage of the yarn. This is important because of the characteristics of the fiber. Dynel can be stretched excessively during processing if care is not taken to avoid this condition. The excessive stretch results in a yarn with a boiling water shrinkage which will cause varying degrees of trouble, depending on the end use of the yarn. Normal yarns usually have shrinkages in boiling water in the range of 4 to 7%. For most applications the shrinkage should be as low as possible.

Excessive stretch may occur in a number of ways. Some of these are: too little lubricant, non-uniform application of lubricant, too much twist, and condensing the sliver too much in gilling and drawing. Non-uniform tensions in processing from one machine to the next or from spindle to spindle will cause non-uniform results.

The processes described are divided into three sections: Dynel Top Making from Undyed Staple; The Production of Dyed Dynel Top; and, Drawing and Spinning Dynel Worsted Yarns.

## Dynel Top Making from Undyed Staple

Dynel top of unusually high quality has been made from 3-denier 4-inch and 6-denier 6-inch staple with pin drafters and also on a modified Bradford system. Nep counts in the range of 2 to 10 per ounce have been attained. Both 100% dynel worsted yarns and blends with wool and other fibers have been made. An example of making top with pin drafters is given in Table 1.

**Lubrication.** Dynel as supplied contains approximately 0.5% of a relatively high-drag antistatic finish. It is necessary to add 0.2 to 0.4% of a lubricant on the basis of the fiber. Avcosol 104[1], Morosol 4L[2], and Aerotex Softener H[3] have been effective in producing

(1) American Viscose Corporation, Philadelphia, Pa.
(2) Moreland Chemical Company, Inc., Spartanburg, S. C.
(3) American Cyanamid Company, Bound Brook, N. J.

### *Table 1. Dynel Top Making with Pin Drafters*

**Stock:** 3 denier, 4-inch dynel

**Finish Application:** 0.25% of Avcosol 104, see text.

**Carding:** For settings see Table 3
See Figure 1 for staple diagram of carded stock
131 grains per yard sliver produced.

**Pin Drafting**

| Operation | D'bl'ngs | Draft | Gr/Yd | P.P.I. | Nip Settings | Guide Setting | Nep Count one oz. | Unevenness Avg | Unevenness Max |
|---|---|---|---|---|---|---|---|---|---|
| 1st | 4 | 4.06 | 123 | 22 | 1 3/16" | 2½" | — | — | — |
| 2nd | 4 | 6.13 | 80 | 29 | 1" | 2" | 2 | 7.7% | 13.7% |
| 3rd | 4 | 6.4 | 50 | 29 | ⅞" | 1¾" | 8 | 10.4% | 19.0% |

### *Table 2. Details of Worsted Card*

48" Davis & Furber; 3 denier, 4-inch dynel staple
Average Production: 45 pounds per hour

| | Dia. (inches) | Circum. on wire (inches) | Wire Number | Counts & Crowns | Points Per Sq In. | One Typical Operating Set-up Gauge | RPM | Inches Per Min. |
|---|---|---|---|---|---|---|---|---|
| Feed Rolls | 4 | 14.12 | Garnetted | | #1 - 4 | 26 | 1.7 | 24.7 |
| 1st Licker-in | 30 | 95.5 | Garnetted | | 2 Lt - 8 | 26 | 8.5 | 811.7 |
| 1st Top Divided | 20 | 63.75 | Garnetted | | 3 ST - 10 | 26 | 4. | 255. |
| 2nd Licker-in | 26 | 84. | 24/28 | 65/7 | 182 | 26 | 21.5 | 1806. |
| Breast | 36 | 115.25 | 28/32 | 90/9 | 324 | 26 | 34. | 3918.5 |
| 1st Worker | 10 | 34.1 | 28/32 | 90/9 | 324 | 24 | 8. | 272.8 |
| Stripper | 4 | 14.9 | 28/32 | 85/9 | 306 | 26 | 67. | 998.3 |
| 2nd Worker | 10 | 34.1 | 28/32 | 90/9 | 324 | 24 | 7.5 | 255.7 |
| Stripper | 4 | 14.9 | 28/32 | 85/9 | 306 | 26 | 67. | 998.3 |
| Angle Stripper | 8 | 27.5 | 30/34 | 85/9 | 306 | 26 | 347.2 | 9549. |
| Cylinder | 54 | 172. | 30/34 | 105/10 | 420 | — | 80. | 13760. |
| 3rd Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 26 | 7. | 238.7 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| 4th Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 26 | 6.7 | 230.1 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| 5th Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 28 | 6.5 | 221.6 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| 6th Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 28 | 8. | 272.8 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| Fancy | 12 | 44.8 | 30 | 45/8 | 144 | — | 430.5 | 19286. |
| Doffer | 40 | 128. | 31/35 | 115/11 | 506 | 26 | 5. | 640. |
| Doffer Comb | — | — | — | — | — | 26 | 767 Strokes | |

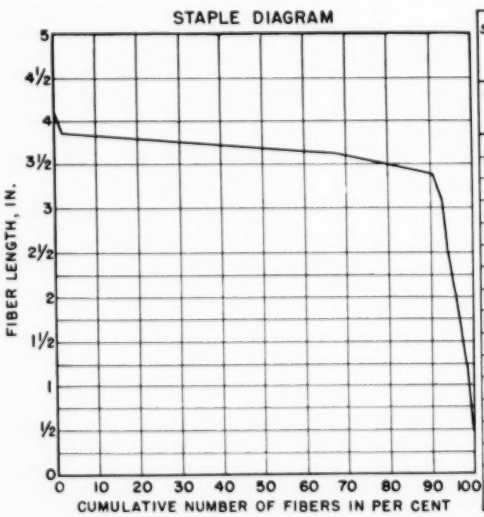
*By Courtesy of the American Viscose Corporation*

satisfactory tops.

To apply the lubricant, the stock is spread out and sprayed with a 10% dispersion of the lubricant in water by means of a paint spray gun. The lubricant solution should be sprayed on as evenly as possible in order to get good distribution. Care should be taken to prevent any dripping or spillage of the solution onto the stock since the resulting wet spots may cause pilling and nep in carding. The stock is allowed to condition for about four hours before carding. Opening before carding is neither necessary nor advisable. Any form of picking or opening may cause tangling of fibers and result in a neppy card sliver.

**Carding.** The lubricated staple

**FIG. 1.** Staple diagram indicating the negligible amount of short fiber that results from carding and pin drafting.




SAMPLE 3.0 DEN., 4-IN. DYNEL STAPLE
2nd PIN DRAFT SLIVER
60% R.H. 76 °F.

| LENGTH IN 1/4 INCHES | NO. OF FIBERS PER CENT | CUM. NO. OF FIBERS PER CENT |
|---|---|---|
| 16 | 1.4 | 1.4 |
| 15 | 64.7 | 66.1 |
| 14 | 24.9 | 91.0 |
| 13 | 1.8 | 92.8 |
| 12 | | |
| 11 | 0.9 | 93.7 |
| 10 | 0.5 | 94.2 |
| 9 | | |
| 8 | 2.0 | 96.2 |
| 7 | 0.9 | 97.1 |
| 6 | 0.9 | 98.0 |
| 5 | | |
| 4 | 1.3 | 99.3 |
| 3 | | |
| 2 | 0.5 | 99.8 |
| 1 | | |
| TOTAL | 99.8 | 99.8 |

may be run on a conventional worsted card. In Table 2 are listed the worsted card settings with which dynel lubricated with Avcosol 104 has been run. Successful runs have been made at relative humidities between 40 and 60% and dry bulb temperatures from 70 to 80 F. The staple diagram shown in Fig. 1 is typical of a number of diagrams made and indicates the negligible amount of short fiber that results from carding and pin drafting.

**Pin Drafting.** The card sliver is given three pin draftings or gillings to yield finished top. On the pin drafter, the elimination of licking on the top rubber roll may be accomplished by the use of a Dayco "toasted" or oxidized roll or by parchment.

The top may be taken as 100 to 140-grain sliver as delivered into paper bags by the pin drafter or as 3-ounce top from a finisher gill. The unevenness of a group of sample lots of 100-grain sliver were determined on a Pacific Evenness Tester. The average of the values for these lots was 10% average unevenness and 20% maximum unevenness.

## *The Production of Dyed Dynel Top*

Top-dyed dynel is finding increasing uses in the worsted industry, both in the manufacture of all dynel worsted yarns and in blends with wool and other fibers. Dyeing is being done in ball top kettles and in Abbott equipment by the general procedures illustrated in Tables 3 and 4*.

The effects of heat on dynel are of first importance, both in the preparation of packages for dyeing and in the dyeing process. When dynel is heated in steam, it relaxes and shrinks slightly. This has two major advantages. It imparts to the fiber a wool-like crimp that gives the sliver excellent cohesion for all subsequent operations; it also removes the strains introduced

*Published in "Dyeing and Wet Finishing Techniques for Dynel", Carbide and Carbon Chemicals Company, 1952.

### *Table 3. Typical Procedure for Dyeing Dynel Top*

**SHADE:** Navy Blue **EQUIPMENT:** Top

| | | |
|---|---|---|
| **MATERIAL** | Dynel | |
| **ASSISTANTS** | All percentages are based on the material | |
| Dyeing: | Nacconol NR | 1.0% |
| | Calgon | 1.0% |
| | Sulfuric Acid (ph 4 final 4) | 0.25% |
| | Cupric sulfate | 2.0% |
| | Sulfoxite S | 0.8% |
| | Sodium Sulfate, anhydrous | 200.0% (1) |
| Scouring: | Calgon | 1.0% |
| | "Tergitol" Dispersant NPX | 2.0% |
| | Soda Ash | 2.0% |
| | (1) Bath ratios higher than 15:1 will require a corresponding increase in sodium sulfate. | |
| **DYES** | Anthraquinone Blue SWF 150% | 6.0% |
| | Eastman Fast Yellow 4RLF | 4.0% |
| | Eastone Fast Red GLF | 4.0% |

**DYEING AND FINISHING PROCEDURE** Bath Ratio: 15:1

1. Enter material and rinse.
2. Prepare dyebath and add Nacconol NR and Calgon.
3. Add dissolved dyes at 150 F, run 10 minutes and add 50% sodium sulfate slowly, raise temperature to 210 F and run for ½ hour.
4. Cut steam off, add sulfuric acid and continue dyeing for ¼ hour.
5. Dissolve cupric sulfate in 100 F water.
6. Dissolve Sulfoxite S in 100 F water and mix with the dissolved cupric sulfate. Drip this mixture into the bath over a 15 minute period. Bring temperature back to 210 F and continue dyeing for another ½ hour.
7. Add the remaining 150% sulfate slowly and continue dyeing for one hour.
8. Cool slowly and rinse.
9. Scour at 165 F with 2.0% "Tergitol" Dispersant NPX, 2.0% soda ash and 1.0% Calgon. Rinse thoroughly.
10. Dry material at 220 F or lower.

### *Table 4. Typical Procedure for Dyeing Dynel Top*

**SHADE:** Marine Kersey **EQUIPMENT:** Top

| | | |
|---|---|---|
| **MATERIAL** | 100% Dynel | |
| **ASSISTANTS** | All percentages are based on the material | |
| Dyeing: | Nacconol NR | 1.0% |
| | Calgon | 1.0% |
| | Sodium Sulfate Anhydrous | 100.0% (1) |
| Scouring: | Calgon | 1.0% |
| | "Tergitol" Dispersant NPX | 1.0% |
| | Soda Ash | 2.0% |
| **FINISH** | "Tergitol" Dispersant NPX | 2.0% (1) |
| | (1) Higher bath ratios will require a corresponding increase in the amount of assistant. | |
| **DYES** | Eastman Fast Yellow GLF | 4.0% |
| | Eastman Fast Blue GLF | 2.5% |
| | Eastone Fast Red GLF | 0.75% |

**DYEING AND FINISHING PROCEDURE** Bath Ratio 15:1

1. Enter material and rinse.
2. Prepare dyebath and add Nacconol NR and Calgon.
3. Add dissolved dyes at 150 F, run 10 minutes and add 50% sodium sulfate, raise temperature to 210 F and run for ½ hour.
4. Add 50% sodium sulfate slowly and continue dyeing at a boil for 1 hour.
5. Cool slowly and rinse.
6. Scour at 165 F with 1.0% "Tergitol" Dispersant NPX, 2.0% soda ash and 1.0% Calgon, rinse.
7. Apply 2.0% "Tergitol" Dispersant NPX at 100 F for 10 minutes in final rinse.
8. Dry material at 220 F or lower.

during carding and pin drafting.

When dynel is heated in a boiling dyebath, it softens somewhat and on cooling tends to be set in the position in which it was cooled. For this reason, it is necessary that the packages for dyeing be wound with the least possible twist. Set twist forms hard places whose removal by gilling and drawing is impractical.

**Preparation of Top for Dyeing.** 140 grains per yard sliver as delivered in paper bags from a pin-drafter or balling head is placed in a steaming chamber such as a Vigoureux steamer. The paper is cut open to expose the sliver to steam at 4 to 5 lb per sq in. pressure for 30 minutes.

The steamed sliver is wound with the minimum twist possible into 10-lb balls. The sliver is then fed between parallel rods through a non-rotating trumpet onto a balling machine set for medium tension. The completed balls of top are covered with dye nets which should fit tightly.

**Dyeing.** Dynel ball tops are loaded onto the spindle before adding water to the kettle. A relatively light closing pressure is applied. Heavy closing pressures cause the tops to shift sidewise at dyebath temperature above 180 F.

Abbott spools are loaded in the conventional manner.

The dyebath is prepared in the normal way and the dyes and assistants added between 120 and 150 F. The dyeing is done at a boil. Circulation rates are of first importance. Rates which are too low can result in shading from inside to outside. Rates which are too high cause cake distortion and shifting. D-C, Antifoam A Emulsion, and Depuma are often used for the control of foam during dyeing. Examples of typical specific dyeing procedures are given in Tables 3 and 4.

Present experience indicates that the preferred method for sampling for shade is that known as "hot sampling." The pump is stopped after adjusting the liquid level to keep the tops completely submerged and, with aid of rubber gloves, a sample is taken from the top ball. A low liquid level will cause excessive sagging and distortion of the tops with subsequent by-passing of the liquid.

Effective scouring can be accomplished in the dye kettle. The tops are rinsed thoroughly and, because of the thermoplastic nature of dynel, cooled very slowly. Slow cooling by a running rinse is essential to yield balls of good shape and condition. Scouring is done at 165 F with "Tergitol" Dispersant NPX, soda ash, and Calgon followed by rinsing and cooling to 120 F. The tops should have no mechanical handling until the temperature has dropped to 120 F. On dynel run on the Abbott system which is to be blended with wool, a final rinse with "Tergitol" Dis-

***Table 5. Dyed Dynel Top Making***

**DYEING:** Ball Top

**BLENDING-GILLING:** 3 ounces per 5 yards sliver

| Operation | Gill | Pins/Inch | Doublings | Draft | Grains/ Yard | Oil Application |
|---|---|---|---|---|---|---|
| 1st | Leveler (1) | 8 double set | 14 | 6 | 612 | 3% Nopco 1656-R (2) |
| 2nd | Leveler | 8 double set | 6 | 6 | 612 | None |
| 3rd | Leveler | 8 double set | 5 | 6 | 515 | None |
| 4th | Leveler | 8 double set | 5 | 6 | 429 | None |
| 5th | First Finisher | 14 double set | 3 | 4.5 | 286 | None |
| 6th | Top Finisher | 14 double set | 2 | 2.16 | 265 | None |

(1) Width of sliver approximately 8 inches.

(2) Applied by a finger dripper as the sliver entered the first operation.

***Table 6. Dyed Dynel Top Making***

**DYEING:** Abbott System

**BLENDING-GILLING:** 3 ounces per 5 yards sliver

| Operation | Gill | Pins/Inch (2) | Doublings | Draft | Grains/ Yard | Oil Application (3) |
|---|---|---|---|---|---|---|
| 1st | Doubler Gill (1) | 13 double set | 14 | 6 | 614 | 1.2% Swift Oil 1350-S |
| 2nd | Doubler Gill | 13 double set | 6 | 6 | 614 | None |
| 3rd | First Finisher | 14 double set | 3 | 4.62 | 399 | None |
| 4th | First Finisher | 14 double set | 3 | 4.62 | 259 | None |

(1) Width of sliver approximately 8 inches.

(2) The pinning used in this example should not be considered as a recommendation. The proper pinning must be worked out by each mill to yield the quality of sliver desired.

(3) Applied by a paint spray gun as the sliver entered the first operation.

persant NPX is given to provide static protection and improve openness. No further cleanup has been required for the Abbott processed top. The top can be unwound without difficulty.

**Backwashing.** Ball tops are given a final cleanup and the sliver opened by backwashing. One procedure is to use a 2% solution of trisodium phosphate in the first bowl, 2% solution of "Tergitol" Dispersant NPX in the second bowl, and water in the third bowl. The temperature of the bowls should be kept between 120 and 130 F. In the dryer the temperature should be such that the sliver will retain a small amount of moisture to aid in eliminating static on the backwasher gill.

**Lubrication.** The sliver is lubricated as it goes into the backwasher gill. This can be done by the conventional "finger" dripper. Much better results are obtained through the use of a spray. Two oils have been used, each of which gave excellent top and yarn. These are Nopco 1656-R and Swift Wool Oil 1350-S. The oils may be applied as an emulsion or without water. When applied from the "finger" dripper, from 2 to 3% is required. When applied by spray, 1 to 2% appears to be sufficient.

**Gilling.** The general rule for gilling dynel is to give the fibers "room to breathe." All twist should be kept out of the ends going into the gill. The sliver should be spread out over a wider area than is normal with wool. The pinning should be coarse. Back draft should be kept near zero. The distance between the fallers and the front nip should be large enough to avoid permanent removal of crimp. Somewhat less than normal pressure on the nip rolls will often stop licking. If slippage in the front nip rolls is encountered, usually the sliver should be spread out over a wider area in the fallers. When a power creel is used, the creel should be run at the same speed as the back nip roll of the gill.

The number of regillings after backwashing may follow the usual practice with wool or may be run on pin drafters. Satisfactory meth-

## Dermatitis Can Be Controlled

Skin diseases annually cost industry one hundred million dollars, the West Disinfecting Co. points out in a new 32-page booklet, "The Control of Dermatitis in Industry." The firm, which manufactures industrial products for the promotion of sanitation, calls this expense a needless waste.

Prevention rather than cure is emphasized as the solution to the problem. It is pointed out that, according to industrial physicians, 90 per cent of industrial dermatitis cases can be prevented by proper cleansing materials and methods, and correct supervision and instruction.

The booklet presents a simple, inexpensive prevention and control program for guaranteeing personal cleanliness, protecting exposed skin areas, preventing clothing contamination, and guarding against special hazards. After outlining the problem, the booklet lists the conditions which should be checked to determine the cause of dermatitis when it occurs.

A six-page chart covering a wide range of industries lists various working conditions, types of dermatitis prevalent where these conditions exist, and suggested preventive measures for each. Brief descriptions of typical industrial skin troubles are included.

Copies of "The Control of Dermatitis in Industry" may be obtained by writing the West Disinfecting Co., 42-16 West Street, Long Island City 1, N. Y.

## Carefully Prepare Project Proposals for Consideration by Management

Careful preliminary planning is required for the proper budgeting of projects in any company, large or small. Costs and economics must be known to permit management to determine whether a project is justifiable and should be carried out. If the project is approved, a timetable is necessary so schedules of production can be properly adjusted and so the treasurer will be provided with the information on contemplated expenditures which is needed for his planning.

Design layouts should be complete enough for accurate estimating and in so doing must preclude unforeseen interference with other equipment, buildings or processes. They must show all structural changes, additions and reinforcement, equipment relocations and alterations, and all new equipment and services. Clear-cut drawings or sketches should show the essential elements of the project in such a way that they can be understood and reviewed by management.

The importance of accuracy in making the cost estimate is quite apparent. It is essential for satisfactory budgeting and for proper evaluation of the project. Complete and up-to-date costs of materials and equipment must be obtained. Labor estimates should be carefully made and finally checked with those who are to do the work, whether it be the plant maintenance department or outside contractors.

The economics of the project should be fully evaluated, taking into account amortization of the initial cost through operating savings resulting from the new installation with improved methods as compared with the old operation. The estimate of savings should be on a conservative basis so they can be attained in actual operation. Other advantages such as improvement in quality, better working conditions, etc., may make the project more desirable than cost savings alone would indicate.

In making the time schedule, the prime consideration is availability of equipment and materials. This data must be tied in with other factors that affect the carrying out of the work such as weather or seasonal restrictions, labor availability, etc.

From talk on "Project Control" by Harold Catlin, superintendent of manufacturing engineering, Bigelow-Sanford Carpet Co., Thompsonville, Conn., at the 1953 Plant Maintenance Show in Cleveland, Ohio.

ods for blending and gilling or pin drafting should be established by the mill with regard to the equipment available and to the end use of the top. Examples of top making based on experimental runs on open gills are shown in Tables 5 and 6. These examples are not given as general recommendations, but will serve as starting points for the development of a commercial operation.

## Drawing and Spinning Dynel Worsted Yarns

Worsted yarns of excellent quality are being produced from dynel and from blends of dynel with wool and with Vicara. Since blended yarns are made by the usual methods for wool and Vicara, the suggestions on processing and the examples of yarn manufacture are presented for 100% dynel yarns.

In the drawing and spinning of dynel it is again as essential as it is in top-making to give the fiber "room to breathe." Particular care should be taken to remove all twist from the top as it enters the first drawing operation, and a minimum of twist should be inserted. In all operations the ratch should be such that sufficient crimp is left in the sliver to permit subsequent processing. The sliver between the nip and the back carrier roll should be soft.

One recommended method for setting the machine is to set the back carrier rolls about three quarters of the ratch distance back from the front roll. The carrier roll may be a piece of pipe with plugged ends. These settings should be checked by the use of an evenness tester.

In drawing, some prefer to omit the front tumbler roll. In addition, precautions should be taken to prevent any twisting of ends going into a machine since the fiber can cut a cork roll in two and groove a synthetic roll. Some spinners remove the top carrier rolls in spinning. No additional lubrication has been found necessary for the yarns produced by these methods.

**Undyed Top.** Undyed top can be spun into yarn after two operations of drawing. In Table 7 is an example of a 20s yarn spun from 100 grains per yard sliver. In Table 8 is a drawing and spinning layout for making 24s yarn from 50 grains per yard sliver. The average unevenness determined on a Pacific Evenness Tester for this latter lot was 50.8%; the maximum unevenness was 81.5%.

**Dyed Top.** One method of con-

### Table 7. Drawing and Spinning of Undyed Dynel Worsted Yarn to Make 20s from 100-Grain Sliver

**Top:** 100 grains per yard sliver

**Finish:** 0.25% Avcosol 104

**Fiber:** 3 denier, 4 inch

**DRAWING LAYOUT**

| No. | Operation | Doubling | Actual Draft | Actual Weight Drams | Ratch Inches |
|---|---|---|---|---|---|
| 1 | Reducer | 1 | 3.81 | 37.8 | 6.5 |
| 2 | Rover | 2 | 10.8 | 7.0 | 6.25 |

**SPINNING**

| Counts | Dram Roving | Draft | Twist | Turns | Ratch Inches | Spindle Speed RPM |
|---|---|---|---|---|---|---|
| 1/20s | 7 | 7.66 | Z | 6.9 | 6.25 | 4725 |

**YARN PROPERTIES**

| % Boiling Water Shrinkage | % Unevenness (Pacific) | |
|---|---|---|
| | Avg | Max |
| 6.7 | 56.4 | 84.4 |

### Table 8. Drawing and Spinning of Undyed Dynel Worsted Yarn to Produce 24s Yarn Count from 50-Grain Sliver

**Top:** 50 grains per yard, made as described in Table 1

**Finish:** 0.25% Avcosol 104

**Fiber:** 3 denier, 4 inch

| Operation | Ratch | Doublings | Draft | Gr/Yd | Front Roll Circ. | Front Roll RPM | Spindle RPM | T.P.I. |
|---|---|---|---|---|---|---|---|---|
| 12 Spindle Draw | 5" | 1 | 5 | 10 | 12.4" | 74 | 542 | 0.59 |
| Rover | 5" | 2 | 6 | 3.35 | 9.42" | 107 | 1375 | 1.37 |
| Spinning | 5" | 1 | 6.4 | 0.52 | 10.99" | 36.4 | 4800 | 12 |

| | | | |
|---|---|---|---|
| Yarn Count Produced: | 1/24s | Boiling Water Shrinkage of Yarn: | 6.1% |
| Spinning: | Good | Unevenness, Average | 50.8% |
| Breaks per 1000 Spindle Hours: | 45 | Unevenness, Maximum | 81.5% |

verting dyed dynel top into yarn is by the conventional Bradford System. In Table 9 is the drawing and spinning layout for making 18s knitting yarn from three-ounce-per-five-yard top which had been lubricated by a "finger" dripper after backwashing. In Table 10 are similar data for a 20s yarn made from top which was lubricated by spraying the oil with a paint spray gun after backwashing. The sliver for the latter yarn showed an average unevenness of 46.3% and maximum unevenness of 62.0%.

### *Table 9. Drawing and Spinning Dynel Bradford Yarn to Produce 18s Yarn from 3-Ounce Dyed Top*

**Top:** 3-ounce dyed Navy Blue, made as described in Table 5
**Fiber:** 3 denier, 4-inch
**Lubricant:** 3% Nopco 1656-R

**DRAWING LAYOUT**

**System:** modified open **Draw Sliver** 384

| No. | Operation | Doubling | Actual Draft | Actual Weight Drams | Ratch Inches | % Unevenness (1) Avg | Max |
|---|---|---|---|---|---|---|---|
| — | Top | — | — | — | — | 36.1 | 58.1 |
| 1 | 2 Spindle Gill | 4 | 6.4 | 240 | (2) | 22.3 | 33.6 |
| 2 | First Finisher | 3 | 6.28 | 116 | 7.25 | 48.3 | 90.5 |
| 3 | Second Finisher | 3 | 6.12 | 57 | 6.5 | 42.2 | 74.6 |
| 4 | Reducer | 2 | 5.65 | 20.2 | 6.25 | 43.2 | 58.0 |
| 5 | Rover | 2 | 5.09 | 8 | 5.75 | 34.3 | 61.6 |

**SPINNING**

| Counts | Dram Roving | Draft | Twist | Turns | Ratch Inches | Spindle Speed RPM | End Breaks per 100 Spindles per Hour | % Unevenness (1) Avg | Max |
|---|---|---|---|---|---|---|---|---|---|
| 1/18s | 8 | 7.9 | "Z" | 6.5 | 6.25 | 4475 | 7.2 | 57.5 | 78.2 |

| Ply | Twist | Twisting Turns | %Boiling Water Shrinkage | % Unevenness Avg | Max |
|---|---|---|---|---|---|
| 3/18s | S | 3.9 | 10.5 | 47.3 | 61.4 |

(1) Pacific Evenness Tester
(2) Settings of 2 spindle gill

RPM of Bobbin 175
Pinning, pins/inch 15
Draft 6.38
Twist, t.p.i. 0.117

Back Roll to Fallers, inches 5.5
Back carrier roll to front nip, inches 4.75
Both top carrier rolls in use.

### *Table 10. Drawing and Spinning Dynel Bradford Yarn to Produce 20s Yarn from 3-Ounce Dyed Top*

**Top:** 3-ounce dyed Navy Blue, made as described in Table 6

**Fiber:** 3 denier, 4-inch

**Lubricant:** 1.2% Swift Oil 1350-S

**DRAWING LAYOUT**

**SYSTEM:** Modified open **Draw Sliver** 380

| No. | Operation | Doubling | Actual Draft | Actual Weight Drams | Ratch Inches |
|---|---|---|---|---|---|
| — | Top | — | — | — | — |
| 1 | 2 Spindle Gill | 4 | 5.9 | 257 | 6.5 |
| 2 | First Finisher | 3 | 6.02 | 128 | 6.25 |
| 3 | Second Finisher | 3 | 5.91 | 65 | 6.0 |
| 4 | Reducer | 2 | 6.01 | 21.5 | 5.75 |
| 5 | Rover | 2 | 6.12 | 7.02 | 7 |

**SPINNING**

| Counts | Dram Roving | Draft | Twist | Turns | Ratch Inches | Speed Spindle RPM | End Breaks per 100 Spindles per Hour |
|---|---|---|---|---|---|---|---|
| 1/20 | 7.0 | 7.7 | Z | 6.9 | 7 | 4550 | 6.2 |

The boiling water shrinkage of the yarn was 4.8%

***Do you KNOW or GUESS***

# What Humidity to Run in Weaving?

*Staff Prepared*
EXCLUSIVE

WEAVING mills for years have been interested in running lower relative humidity in the weave shed. The question of "what rh do you run in weaving" has been brought up time and again in the technical discussion meetings, but seldom has a scientific test result been given in answer.

Some mills now are experimenting with lower relative humidity in weaving, and the Institute of Textile Technology (an industry-wide research organization) is reported to be working on the project in conjunction with a member mill. The results of the ITT program are not available for publication at this time.

**Why Lower Humidity.** Besides saving on the cost of humidification, mill men would like to reduce the humidity and run a lower temperature because the weave shed would be more comfortable for the operatives, and they believe there would be a saving on loom supplies, such as leather, and less corrosion of metal loom parts.

In addition, if the humidity were reduced, cleaning of the looms would be easier. The way would then be open to automatic air cleaning of looms, as is now done in spinning by overhead traveling cleaners and underframe cleaners. It also may lead to wide-scale use of suction devices near the drop wires to remove the collection of lint, which is always a detriment to weaving and is expensive to remove.

In conjunction with less adherence of fly and "shed" to the loom, mill men have expressed the opinion that wide-scale use of bearings of the oil impregnated type or grease filled bearings on the loom would further reduce the amount of lint that sticks to the loom, especially around oiling points of the bearings. These bearings are reported to be under test now in more places on a loom than is considered conventional.

Inasmuch as relative humidity test results on a large scale are not available at present, this discussion can only be considered preliminary; should mills in the industry have gone further with testing in weaving at lower temperature and lower relative humidity, comments are invited.

**Results of Small Scale Test.** Some time ago a well-known cotton mill conducted a small-scale test to study the effect of humidity on yarn strength and loom stops. Although the mill that ran the test points out the insufficiency of sample, the results fell so closely in line with conditions actually in the weave room that the test was considered a good check point.

Starting at 53%, relative humidities of 68%, 78%, and 88% were tested. Using 53% as the basis, the test showed that when relative humidity was increased to 68% the warp stops were reduced 33.45%; from 68% to 78% the warp stops were reduced 12.44%. Thus, from 53% rh to 78% rh the warp stops were reduced 41.41%. No further reduction was obtained when the relative humidity was increased to 88%.

Inasmuch as this was in agreement with existing conditions and findings in the weave shed, no further testing was done.

Although the test was on a small scale, readers should not interpret that it was haphazard. As a matter of fact, the effect of humidity on single end strength, sized and unsized yarn; the effect on single end elasticity, sized and unsized yarn; effect of percentages of regain; and other factors were studied at the same time.

**Single End Tests.** Briefly, the conclusions were, in addition to determining the best relative humidity to run, as follows: Within the ranges studied, humidity has very little effect on the strength of sized yarn. However, humidity has a very definite effect on yarn elasticity and the rate of warp breakage at the loom.

From 60% to 70% relative humidity (laboratory test under controlled conditions), the residual elasticity increased 15.32% while the warp stops decreased 33.5% (68% actual because the laboratory controlled conditions were correlated as nearly as possible with the weaving test relative humidity). From 70% to 80% relative humidity the residual elasticity increased 9.11% while the warp stops decreased 12.4%.

In other words and in round numbers, the mill got almost 46% fewer warp stops at around 80% relative humidity than it did at 60% relative humidity. But beyond 80% there was little weaving efficiency to be realized.

**Effect of Humidity on Sized Yarn.** Going further, it was found that the strength of the unsized yarn increased rapidly as the relative humidity was raised, but there was very little change in strength on the sized yarn.

The elasticity on both the sized and unsized yarn increased as the humidity was raised, as did the amount of regain in or on the yarn. The sized yarn seemed to respond more rapidly than the unsized in this respect.

To those running the test, the

foregoing indicated that perhaps it is the film of starch that reacts to humidity changes and not the yarn itself, because the strength of the sized yarn did not increase appreciably.

**Elasticity of Yarn Important in Weaving.** An important consideration, when viewed in the light of yarn strength and stretch data, was that elasticity seemed to be more important than strength (on warp) as far as efficient weaving is concerned.

Another observation in the limited test conducted by the mill was that more lint buttons are prevalent at 53% relative humidity; in fact, at 53% rh the lint buttons accounted for nearly half the total warp stops and were nearly double that of the mill's standard for this cause. At higher humidities the warp stops due to lint buttons slacked off.

Mat-ups, as were to be expected, were much higher at 88% relative humidity. Total filling stops also increased at 88% and were much higher than the standard.

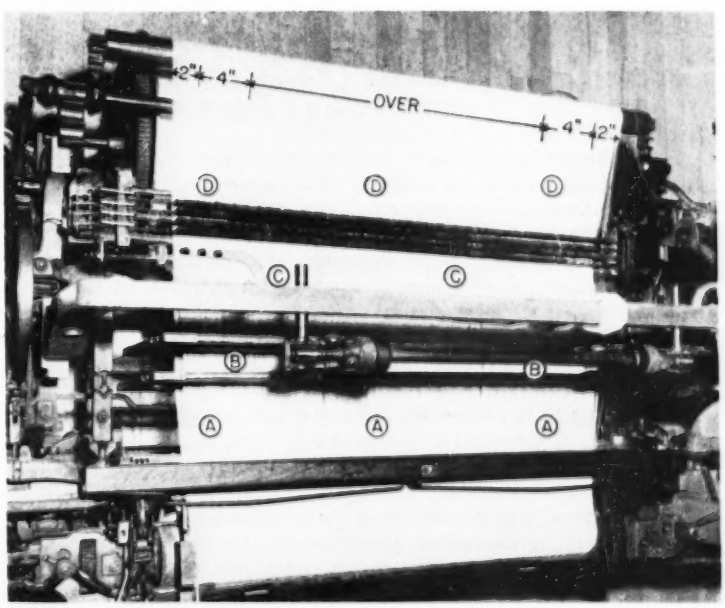
**Extremes in Humidity.** Mills interested in conducting tests of their own may expect more total stops (warp and filling) at both extremes in relative humidity, if the pattern of the test follows that of the mill reported here. The highest total stops were at 53% relative humidity, followed by the 88% relative. As was pointed out, the best record on total stops was at 78%, with the next best at 68%.

In this test, the mill did not use any special yarn or chemicals, such as hygroscopic agents, but sized the 21s dyed yarn in the customary manner.

**Form for Checking Warp Stops.** Tests at this plant are recorded on a form (see illustration) which indicates both the position in the loom where the break occurs and the position in the warp. When a test is run, management gets a summary of the causes of stoppages and knows exactly where breaks are occurring. The report conveys to management a "picture" of the loom and warp, with supplementary data for application of remedies.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ⓐ | PATH OF REED | 2" | 4" | Over | 4" | 2" | Totals |
| | Weak Warp | | | | | | |
| | Knot | | | | | | |
| | Spinner's Gout | | | | | | |
| | Lint on Yarn | | | | | | |
| | Lint Buttons | | | | | | |
| | Cut by Shuttle | | | | | | |
| | Wild Yarn | | | | | | |
| | Unclassified | | | | | | |
| | Totals | | | | | | |
| | Percent of Grand Total | | | | | | |
| Ⓑ | IN HARNESS | 2" | 4" | Over | 4" | 2" | Totals |
| | Weak Warp | | | | | | |
| | Knot | | | | | | |
| | Spinner's Gout | | | | | | |
| | Lint on Yarn | | | | | | |
| | Lint Buttons | | | | | | |
| | Cut by Shuttle | | | | | | |
| | Wild Yarn | | | | | | |
| | Unclassified | | | | | | |
| | Totals | | | | | | |
| | Percent of Grand Total | | | | | | |
| Ⓒ | HARNESS TO DROPWIRES | 2" | 4" | Over | 4" | 2" | Totals |
| | Weak Warp | | | | | | |
| | Knot | | | | | | |
| | Spinner's Gout | | | | | | |
| | Lint on Yarn | | | | | | |
| | Lint Buttons | | | | | | |
| | Mat Up | | | | | | |
| | Wild Yarn | | | | | | |
| | Unclassified | | | | | | |
| | Totals | | | | | | |
| | Percent of Grand Total | | | | | | |
| Ⓓ | BACK OF DROPWIRES | 2" | 4" | Over | 4" | 2" | Totals |
| | Weak Warp | | | | | | |
| | Knot | | | | | | |
| | Spinner's Gout | | | | | | |
| | Lint on Yarn | | | | | | |
| | Lint Buttons | | | | | | |
| | Loose Ends | | | | | | |
| | Draw Back | | | | | | |
| | Crossed Ends | | | | | | |
| | Unclassified | | | | | | |
| | Totals | | | | | | |
| | Percent of Grand Total | | | | | | |
| | GRAND TOTAL | | | | | | |
| | Breaks per inch per M loom hrs. | | | | | | |
| | Total Loom Hours | | | | | | |

**FORM USED IN MAKING WARP STOP CHECK.** Note that the form is designed to indicate the position of the warp break in the loom. Lettering on the form corresponds to position of lettering on photograph (below).



***An outstanding opponent of continued expansion of centralized government says***

# Let's Bring

**By ALLAN SHIVERS**

***No. 5 of a series on problems of business and government***

**ALLAN SHIVERS** has had a notable career in the service of the Lone Star State. At the age of 26 he was elected to the Texas Senate and served three four-year terms. In 1946 he was elected Lieutenant Governor and three years later he became Governor. In 1951 he was elected chairman of the Southern Governors' Conference.

THE PEOPLE of the United States today have a real opportunity to reverse the trend toward Big Government.

For a discouragingly long time we have seen the growth in this country of a feeling of impatience with any limitations on the powers of the Federal Government. We have witnessed the spread of the doctrine that Congress and the President and the Federal Government should have any power they choose to assume — that they should be permitted to coerce the individual citizen to whatever extent they may deem necessary in promoting their own concept of the general welfare.

Now, happily, it seems that the pendulum is poised for a swing in the other direction: away from an all-powerful central government, away from government by executive decree, away from the specious theory of "paramount rights" assumed without benefit of constitutional or statutory provision — away, in short, from Big Government and its attendant evils.

A demand is growing among the people of the United States that government be brought back home.

Back home to the states. Under the basic law of our land, the states have never been in a position of subserviency to the Federal Government. The states are the creators, not the creatures, of the Federal Government. That fact has been too much forgotten.

The doctrine of states' rights is not an empty concept, not merely a topic for speeches by politicians. It is the foundation stone of our whole system of government.

**Constitution Provides for States Rights.** Article X of the "Bill of Rights" of the Constitution of the United States provides specifically and in unmistakable terms that all powers not expressly delegated to the Federal Government remain with the states and with the people. That is one of the fundamental safeguards provided in the Constitution. Another is that which guarantees the individual citizen the free and full exercise of certain rights and protects him against encroachment and coercion with respect to those rights.

It is because of such safeguards as these in the Constitution that the American Government has survived longer than any other government which existed at the time of the document's adoption.

Ours is a government which derives its powers from the governed themselves — from the people. Our Federal Government is not sovereign. Only the people are sovereign in this country. In our Constitution, the American people set up a government of law, not a government of men.

To the extent that we stray from this basic concept, our American form of government is endangered. There has been too much straying from it in recent years. But, say the proponents of an all-powerful central government, conditions have

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# Government Back Home!

changed along with the times. When the Constitution was adopted in 1787, this country had a population of less than four million, and the Union was composed of only thirteen states. The Big Government advocates claim that the men who drew up the Constitution could not have foreseen these changes and would not have presumed to legislate finally for a country which is now composed of forty-eight states with a combined population of more than 150 million.

Is there justification for this claim?

I think not.

**Certain Provisions Were Meant to be Rigid.** I believe that the framers of the Constitution meant for certain of its provisions to be as rigid as language could make them. I believe that they intended for these provisions to remain unchanged through the years, so long as this nation should endure. It is my considered opinion that these rigid provisions are principally responsible for the survival of our Constitution for one hundred and sixty-five years, making it today the oldest constitution in continuous operation in the world.

The provisions I am talking about are those which set up our government as a federation of states — a Federal Government — and not as a centralized national government.

There are several such provisions. Let us consider just two of them: that providing for amendments to the Constitution and that giving each state equal representation in the United States Senate.

The Constitution provides, of course, that amendments may be submitted to the States by two-thirds vote of each house of Congress. But amendments cannot be put into effect until they have been ratified by three-fourths of the states. It is important to note that this ratification is not by the people of he United States as a whole. Such ratification must come from the states acting as separate units. In the process, any state has as much voice as any other state, regardless of their respective populations.

The other provision mentioned reads as follows: "No state, without its consent, shall be deprived of equal suffrage in the Senate." That provision, above any other in the Constitution, guarantees that we shall have a federal form of government — that is, a gov-

ernment made up of a federation of states, and not a centralized national government. In the legislative processes carried on in the Senate, as in the ratification of proposed amendments to the Constitution, every state is equal with every other state. The chief argument made in favor of this form of government, at the time the Constitution was being written, was that this country would expand, that it would grow in area and population, and that only a federated government could survive such expansion and growth. The history of the past one hundred and sixty-five years certainly has proved the soundness of this contention.

If it had not been for these safeguards, our government would have passed years ago under the control of a baker's dozen or so of the most populous states. Our Constitution and our Government have survived precisely because we have had a federated government, a federation of states.

**Changes Were Foreseen.** There have been great changes in this country since the Constitution was adopted, certainly; but the greater the changes, the more apparent becomes the wisdom of the authors of the Constitution in making certain provisions inflexible.

**"Only by bringing government back home can we make certain that the individual and social and economic freedoms guaranteed to us by the Constitution remain in effect."**

*(Reprints of this and other articles in this series on problems of business and government are available. Write to the Editors.)*

In 1887, when our Constitution was a century old, the population of the United States had grown to sixty million people — or fifteen times the population of the country at the time the Constitution was adopted; and the number of states had increased from thirteen to forty-one. Those figures represent tremendous changes. But here we have gone on for another sixty-five years, with the population increasing by 150 per cent and with seven more states added to the Union, without making any fundamental change in our Constitution or in our form of government.

It is a weak case the Big Government proponents advance in support of their theory that the authors of the Constitution would have framed that document differently if they could have forseen the great changes destined to take place in the United States. The framers of the Constitution did foresee change. They deliberately planned and worked to prepare the Union to meet change without its essential governmental structure being impaired.

The Constitution has been subjected to a terrific battering during recent years. It has been assailed as an obstacle in the path of progress. Its authors have been stigmatized as representatives of privilege. Those who hold an abiding respect for the letter and spirit of the Constitution have been labeled reactionaries. Those who have defended its principles have been termed "economic royalists" and "Tories."

In spite of all this, however, the Constitution is still the Constitution. Our Constitution, as drawn up in 1787 and as amended from time to time since then — by the states as separate units — is as much for today as it was for yesterday and will be as much for tomorrow as it is for today.

To the extent that Big Government has led us away from the basic doctrine that this Union is a federation of states, we must fight our way back.

**Must Bring Government Back Home.** In this fight, the states themselves are in a position of critical importance. Only by bringing government back home can we make certain that the individual and social and economic freedoms guaranteed to us by the Constitution remain in effect.

The states are the battleground on which we must fight to halt the powerful flow of governmental power to the national capitol. We may as well recognize that, regardless of which political party is in power in Washington, we shall have always with us those self-seeking or misguided men who want Washington to fill the role of that well-advertised soap powder which "does everything." It is up to those of us who hold to the traditionally American concept of states' rights to oppose the plans of these men, no matter in what high places they may be seated, no matter what their political allegiance.

Along with the assertion of states' rights there must be, of course, an assumption of states' responsibilities.

It is vitally necessary that we get away from the idea of letting Uncle Sam do it. We must show less eagerness for handouts — of our money — from the Federal Government, for with the handouts inevitably goes control. We must vigorously and unceasingly resist efforts by any department of the Federal Government to encroach still further on our inherent rights as states; that, indeed, is our basic responsibility.

From my own experience in state government, I should like to add a cautioning thought that the seats of state government must not themselves become miniature Washingtons. The idea of bringing government home to the people should work downward as well as upward. Counties and muncipalities within a state have their own rights in respect to local self-government. Those rights should be rigorously upheld and zealously protected by the several state governments.

In working to bring government back home to the people, the states of this Union are simply performing a duty to their citizens and to their businesses and industries. That duty is to maintain the proper perspective as regards freedom of the individual and freedom of business enterprise.

For the individual units of this federation of states, ours is a time of challenge and of opportunity. We can realize the opportunity by meeting the challenge.

# Vacuum Extractor Controls

## *facilitate beam dyeing*

**By R. J. TUCKER**
*Plant Engineer, Patterson Mills Co.*

EXCLUSIVE

PRACTICALLY all textile mills having beam dye departments employ vacuum extractors of some design to remove excess water from the yarn after dyeing. Our own mills employ both Cycloidal and Hytor type vacuum pumps driven by twenty-five or thirty horsepower electric motors.

Maximum extracting speeds depend upon operating at the highest vacuum obtainable. This in turn involves close clearances between rotors and casing for the Cycloidal pumps. A definite flow of water into the casing is required to provide a seal and to prevent excessive heat and resultant expansion of parts rotating at close clearances. The Hytor pumps require a water flow into the casing for cooling, for vacuum generation, and for adjustment of the vacuum obtained; in fact, "no water—no vacuum, and soon no pump" has been our experience.

Several control schemes have been employed to insure that the pumps are not started or operated without the proper water flow. The accompanying diagram shows our recommended controls for such installations. Only the control elements are shown. This arrangement includes a timer to provide definite extracting periods so as to obtain relatively even results from dye beam to dye beam.

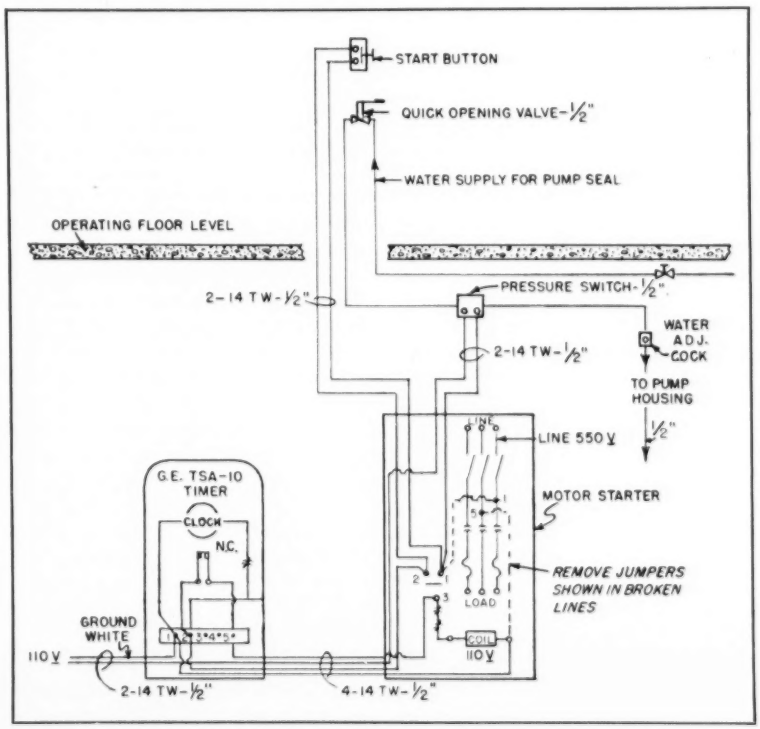
Operation is started by opening the "Quick-Opening" sealing water supply valve. The resulting pressure built up against the water flow adjustment cock closes the normally open contacts in the pressure switch. The "Start" button is then pressed, causing the timer to start and the motor starter to pull-in. When the timer completes its preset interval, its main contacts open, causing the motor starter to drop-out and the timer to reset itself and stop at zero. The sealing water continues to flow unless the quick-opening valve is closed. A failure of sealing water supply pressure will cause the motor starter to drop-out and return the timer to zero.

There are several possible modifications to this scheme, depending upon local needs. For instance, a signal light could be installed near the start button to indicate when the cycle is completed. A vacuum gauge should be placed there to insure the operator that the extractor has actually begun its work. A different timer circuit could be employed so that after a water pressure failure is cleared the timer would restart and complete the interrupted cycle.

If simplicity is desired, then the timer and start button could be eliminated. The quick-opening valve would then start the operation by supplying water pressure to the pressure switch. This switch in turn would cause the motor starter to pull-in. Closing the quick-opening valve after the desired interval would then stop the extractor.

Our scheme does not work well where drops in water pressure down to almost zero occur for even short periods. But then vacuum extractors requiring sealing water will not operate for long under such pressure conditions. A major change in water supply piping would be necessary so that pressures never drop below about 15 psi.

We have found that a solenoid type of water control valve connected to the load side of the motor starter is unsatisfactory. Chemicals in most water supplies will cause these valves to stick so that the motor can be started with no sealing water flow. A metering type of switch which operates on actual direction and velocity of water flow in the piping would be satisfactory.



**Program at Cotton Research Clinic consists of both formal papers and open forum discussions.**

# Fourth Cotton Research Clinic

*Staff Report*

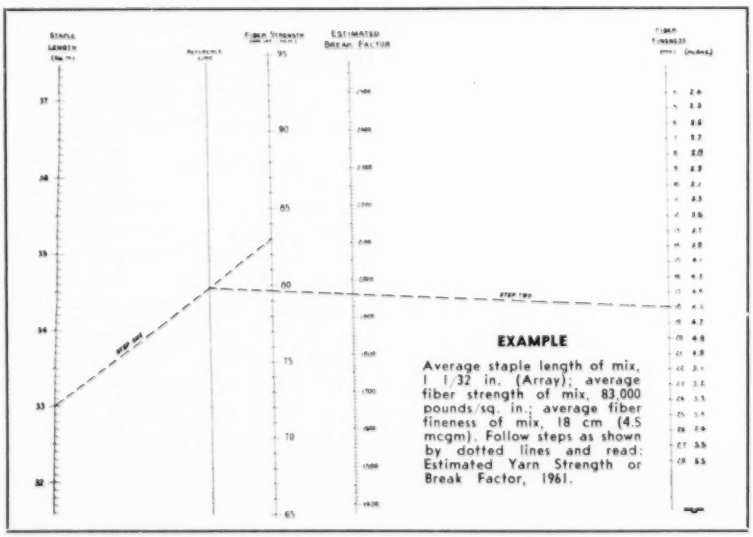
THE FOURTH Cotton Research Clinic (fiber and processing section) attracted more mill men, researchers, and allied textile interests than any of the previous sessions. Those in attendance heard addresses on subjects which gave reports of research in progress, practical application of finished projects, and a look into the future of expected developments. Even negative reports of research work that to date has not proved practical were of interest to the audience.

The meeting was held February 18-20 at the General Oglethorpe Hotel, Savannah, Ga., under auspices of the National Cotton Council. Next year the Clinic will go back to Pinehurst. Highlights of the Clinic sessions follow:

**Instrument to Measure Fiber Strength and Elongation.** Work is in progress on an instrument which measures strength and elongation of cotton fibers, according to K. L. Hertel of the University of Tennessee who said that what the industry needs is an instrument which is as simple as the Pressley tester but which gives more reproducible and satisfactory results.

A pilot model of the instrument was on display. It is being developed under a contract with the U. S. Department of Agriculture under supervision of the Southern Regional Research Laboratory. Named the Stelometer (STrength-ELongation-METER), it is a pendulum type device with light weight indicators that follow the position of the weight and stop at the point of break of fibers. The

**NOMOGRAPH** for estimating break factor of 30s warp yarn from three fiber properties. Results are based upon pilot plant conditions. All yarns were spun with 4.60 twist multiple. Different mills or laboratories may come out with different levels of yarn strength, but relative effects of fiber properties should hold true under a uniform set of conditions. Fiber lengths are equivalent to government staple type lengths.


ESTIMATED BREAK FACTOR
95
90
85
80
75
70
65
EXAMPLE
Average staple length of mix, 1 1/32 in. (Array); average fiber strength of mix, 83,000 pounds/sq. in.; average fiber fineness of mix, 18 cm (4.5 mcgm). Follow steps as shown by dotted lines and read: Estimated Yarn Strength or Break Factor, 1961.

## *How Cotton Fiber Properties Affect Yarn Strength*

Fiber fineness and fiber length affect yarn strength. Although we would like to know how a knowledge of them will enable us to tell how strong the yarn is going to be, so far we have not been very successful in our predictions, and the making of strong yarns is still much of an empiricle art rather than a science.

In addition to the complexities of staple yarn structure, we also have in cotton a fiber whose properties vary profoundly with the local geometry of the yarn.

Length and length variability of fibers are important in yarn behavior, and twist in the yarn is necessary to transfer stress from fiber to fiber. Also, there will exist along the length of the yarn a high and variable density of fiber ends.

Individual fiber strength and elongation to break depend greatly upon the gauge length used in the test; that is, the distance between clamps, jaws, or tabs used to hold the two ends of the fiber. As the gauge length is decreased, the average fiber strength increases.

Abstract of address by Helmut R. Wakeham, Textile Research Institute, at Fourth Cotton Research Clinic.

The importance of this relationship lies in the probability that cotton fibers in optimum twist yarns behave as if they were being stretched at very short gauge lengths, possibly less than a millimeter. As the length of fiber between jaws is increased, the probability of finding a very weak place is also increased; hence, the average strength observed for the fiber sample is lowered.

Crimp or kinkiness of cotton fiber is useful in processing because it helps the fibers hang together until twisted into the yarn structure, but even in the yarn some of the crimp is maintained. Cotton fibers vary greatly in kinkiness; coarse fibers generally show more crimp than fine ones, and crimp is more easily pulled out of fine fibers.

Yarns are uneven with respect to local size. If the yarn is fairly coarse and contains many fibers in the cross section, then the yarn size at any point along the yarn is directly related to the number of fibers in the cross section.

The spinner's rule that the yarn twist on the average is the product of the square root of the yarn number multiplied by the twist multiplier holds accurately even down to very small sections of the yarn; thus, in the thin places in the yarn there are more turns per inch because the yarn count is higher. This variation in twist along the yarn helps to strengthen the thin places in the yarn.

The old standby of count-strength product is still a practical guide, even though in poor yarn the relation between size and strength is almost nonexistent, especially when short lengths of yarn are tested. A point worthy of note is that the local yarn strength is not related simply to the number of fibers in the yarn cross section; other factors involved are variations in fiber, lengths, strengths, and elongations.

Strength of a cotton yarn is much lower than the composite strength of the fibers at the point of break because only 60-70% of the fibers at the point of break are actually broken, the remaining fibers failing to break because they have ends very near the point of break or because their elongations are too high. Most of the remaining strength loss of fibers in yarns is related to factors in yarn geometry.

population of fibers is sampled by a pair of fibrograph combs in the usual manner.

Hugh M. Brown of Clemson College told of tests with the Clemson Flat Bundle Tester whereby the fiber strengths of a number of cottons were measured at different gauge lengths and the results were correlated with the yarn strengths of the same cottons. From the tests it seems that the equivalent gripping distance on individual fibers in yarn breaks must be approximately 3 mm and that measuring the fiber strength at short lengths used in the Pressley test will incorrectly rank certain cottons in relation to their merit in yarns.

**Correlation of Gauge Length with Fiber and Yarn Strength.** In a report on the application of fundamental research work to pilot plant and mill operation, George W. Pfeiffenberger of Chicopee Manufacturing Corporation had performed many tests which for the company's operations permitted preparation of a formula and a usable nomograph which give a simple and practical estimation of yarn strength from fiber properties. (See nomograph.)

The speaker presented a chart to show that in the case of 100% Very Strong cotton and 100% Very Weak cotton, and blends from these cottons in proportions of 25-75, 50-50, and 75-25, a very definite pattern and high correlation exist when predicting yarn strength. He said that the fibers not only blend well, but have blended in such a way that the strength of the yarn is directly proportional to the amounts of the two cottons in the mixes.

The practical use of the findings, according to Mr. Pfeiffenberger, is that mills can obtain specific yarn strengths by controlling the fiber strength without necessity of making changes in fiber length or fineness. He pointed out that increased staple or finer fiber will increase yarn strength also, but it takes relatively greater increases in these two factors to produce a desired result than it does through controlled fiber strength.

The formula is:

$$\text{Break factor} = 41\,L - 13\,P + 20\,S - 835,$$

in which L is the fiber length in 1/32 in., P is the Permeameter reading in centimeters, and S is the strength in Chandler terms. The nomograph is prepared from this formula. *(Cont. next page)*

**New Roving Twist Formula.** James R. Corley of the Southern Regional Research Laboratory described work leading to the development of a roving twist formula which is said to yield more precisely the same drafting resistance for rovings, irrespective of hank or cotton fiber properties. The new formula takes into consideration the fiber fineness, as well as hank roving and classers' staple length. Tests of the practical application were made on the Belger roving tester, and the roving twists have been used at SRRL for a number of months.

The formula is:

$$Y = .50 \frac{(F)^{\frac{1}{2}} (X)^{\frac{3}{2}}}{L}$$

Substitution in the formula: Y is turns of twist per inch; X is hank roving; F is Micronaire fineness (curvilinear scale); and L is classers' staple length.

A nomograph based on the formula has been prepared.

**Nep Study Aids Mills.** A report prepared by William A. Newell of N. C. State College on the 3-year study of the causes of neps and means of reducing them showed that 21 mills have benefited from this research work performed at the college. The mills that did not get full benefit from application of the study either failed to apply all of the recommendations or gave up too easily, the report stated.

Another point brought out in the report was that mills processing synthetics find the recommendations helpful, and one mill group is now carding synthetics at 30 pounds per hour.

**Clean Cotton Early in Process.** Peter M. Strang of Whitin Machine Works discussed some of the fundamentals in cotton opening and cleaning research. Highlights were that trash in the interior of a lump of cotton will be carried forward intact to the next beater and therefore the removal of dirt and trash may be accomplished most expeditiously by reducing the cotton into smaller pieces as soon as possible. Furthermore, the amount of fine trash increases progressively with the number of beaters involved in processing the stock.

Experiments in the field of cleaning or processing cotton by means of electrostatic electricity were discussed by Hugh Brown of Clemson College. Although he reported little success to date, he felt that the project is not hopeless and many more experimental arrangements are to be tried.

**Effect of Trash on Drafting.** In an address on opening and picking, Robert M. Jones of Saco-Lowell Shops also told of studies of drafting in a roving frame by high speed motion pictures. He said that the effect of seed coatings on the orderly sequence of drawing or pulling apart of the fibers between the first and second rolls was devastating. When one of the seed coatings with the attached fiber (the whole particle less in diameter than the head of a pin) came along, the good fibers adjacent became tangled with the short fibers on the seed coating and stood on end, jumped in the air, and did somersaults. The movie showed why the resultant yarn looked like linked sausage every time a seed coating interfered with the regularity of the drafting sequence.

He also described a new Gyrostatic Opener that is being tested. Substantially, it will open stock along the same principles as the company's picker with fringe rolls, but will not collect the cotton on cages. Instead, it will deliver the cotton into a specially constructed

## *Effects of Storage and Gin Drying Temperature on*

The experience of cotton mill men is that spinning difficulties were much greater in the fall than at any other time of the year (increase in ends down and low yarn skein breaking strength). The consensus is that this decrease in spinnability of cotton is attributable to the introduction of new crop cotton to the mills in late summer and early fall of each year. The incidence of poor spinnability has been observed to gradually decrease so that after two to three months, the level of performance is again normal.

To minimize the influence of introducing new crop cotton into the mill on spinnability, blending of old crop with new crop is practiced by those mills having adequate warehouse facilities. Elimination of the difficulty has been achieved by those mills which can buy and warehouse more than a year's inventory of cotton at a time. Many mills, however, cannot make use of these corrective measures and thus research leading to applicable methods in those cases would save many thousands of dollars annually for each such mill.

The cause for the spinnability behavior of new crop cotton has been ascribed to: (a) the ordinary physical properties of the fibers are different from those of the old crop and some time is required to adjust the processing machines to obtain the best processing conditions, and (b) the ordinary physical properties of the fibers are essentially the same as the old crop but some fiber properties not currently measured which adversely affect initial spinnability change during storage so that acceptable spinning performance is eventually realized.

This report is concerned with the effect of (a) storage of freshly opened (green) cotton (DPL-15, 1951 crop), ginned with gin drying temperatures both lower and higher than normally employed, as baled lint, and (b) storage of freshly opened seed cotton prior to ginning, but subsequently ginned after gin drying at a temperature lower than normal, on spinnability and other properties of commercial importance. Cotton picked from the same field at the height of the season and ginned after low temperature gin drying, served as the control.

As a result of this investigation, the following conclusions can be drawn from data obtained:

1. Storage alone has no apparent effect on fiber length array, uniformity ratio, and

Abstract of address by Jack Compton of the Institute of Textile Technology, at Fourth Cotton Research Clinic.

exhaust outlet with air draft balancing controls.

With the new opener, it is thought that the entire opening line will consist of only feeders, Gyrostatic Opener, lattice opener, and the necessary feeding devices and condensers. The opener is not available commercially at this time.

The new Shirley Opener, to be available in the near future, was described by G. Dakin of the Shirley Institute, Manchester, England (see page 115 this issue). A development based on the principles of the Shirley Analyser, the new opener is said to have the cleaning power equivalent to that carried out by four beaters of the traditional type.

The new type opener, which uses the principle of a fast moving lattice apron and metering units, was the subject of an address by William A. Hunter of T.M.M. (Research) Ltd. of Helmshore, England. A description of the prototype of the machine appeared on page 120 of December 1952 TEXTILE INDUSTRIES.

A. L. Vandergriff of Lummus Cotton Gin Company explained the history and development of the Super-Jet cleaner, and the installation of the machines singly and in tandem. The Super-Jet was first announced in this magazine (Oct. 1950, page 184) and the tandem arrangement was announced later (Feb. 1953, page 95).

An installation story of the equipment and the results achieved by the mill with it, will appear in an early issue.

## Eight Textile Firms Receive Management Excellence Award

Certificates of Management Excellence for the year 1952 have been awarded to eight companies in the textile and related fields by the American Institute of Management, New York. Those so recognized include: American Viscose Corp., Philadelphia; Anderson, Clayton & Co., Houston, Tex.; Cannon Mills Co., Kannapolis, N. C.; Celanese Corp. of America, New York; Industrial Rayon Corp., Cleveland; Marshall Field & Co., Chicago; Pepperell Mfg. Co., Boston, and West Point Mfg. Co., West Point, Ga. The last two named received the award for the second time, the others for the third.

According to Jackson Martindell, president of the Institute—a non-profit foundation devoted to improvement of corporate policies and practices—only 330 companies in the United States and Canada, out of the 3,000 leading concerns whose methods were studied by the Institute, were found eligible to receive the designation.

The number of companies receiving this recognition is growing every year, Mr. Martindell observed, pointing out that 228 were deemed "excellently managed" by the Institute for 1950, and 298 for 1951. In order to qualify, a company must be given 7,500 points out of a possible 10,000. These credits are assigned for excellence in ten separate areas of management—economic function, corporate structure, health of earnings growth, fairness to stockholders, research and development, directorate analysis, fiscal policies, production efficiency, sales vigor, and executive evaluation.

## *the Spinning Quality of "Green" New Crop Cotton*

strength of green new crop cotton.

2. A slight decrease in staple length array, a slight increase in irregularity of fiber length, and no effect on fiber strength, drag, or stiffness occurred as a result of the use of excessive heat during gin drying of green new crop cotton.

3. Neither the storage of green new crop cotton nor the gin drying temperature has a significant effect on the percentage of waste.

4. A trend toward a decrease in neps in the card web with storage was found, but no effect was noted as being due to the use of an excessive gin drying temperature.

5. Storage of green new crop cotton for two to three months after picking as baled ginned lint results in a definite decrease in ends down during spinning when both low and high temperature gin drying conditions were employed, whereas no significant difference was found in spinnability of low and high temperature gin dried cotton.

6. Storage of seed cotton prior to ginning at a low gin drying temperature, and subsequently spun without further storage in the bale, showed a decrease in ends down in comparison with unstored cotton.

7. A trend toward a decrease in yarn skein break factor with storage of low temperature gin dried cotton seems to exist which is not evident with yarns prepared from high temperature gin dried cotton.

8. A comparison of the single end and skein strengths of 30s warp yarn (22.3 tpi) prepared from high temperature gin dried green new crop cotton with that gin dried at a low temperature indicates that the former is greater than the latter. On the other hand, the corresponding 42s filling yarn (23.0 tpi) data indicated that the low temperature gin dried cotton gave a stronger yarn.

9. The per cent nonuniformity of both warp and filling yarn spun from high temperature gin dried green cotton was greater than for low temperature gin dried cotton.

10. Numerous physical and chemical tests made on the variously processed cottons failed to show the cause for the decrease in ends down during spinning resulting from either bale or seed cotton storage.

In summary, it may be stated that the poor initial spinnability of new crop cotton can be overcome by storage for a period of two to three months after picking, either as seed or bale cotton. The cause for the spinnability behavior of new crop cotton is thus ascribed to changes occurring in the fiber during storage which have yet to be measured.

No significant decrease in spinnability of new crop cotton results from gin drying at the recommended operating temperature, or slightly above. However, fiber tests indicate that the use of excessive gin drying temperatures may be detrimental to both fiber length and strength.

# Preparing Warp Yarn for Weaving

**LOOM EFFICIENCY is governed by the preparation of warp yarn in winding, warping, slashing, and dyeing. This article reviews the causes and remedies for some of the more common difficulties encountered, with emphasis on the warping operation.**

**By T. HARGREAVES**
*Superintendent, Caldwell Linen Mills, Canada*

EXCLUSIVE

PRODUCTION efficiency and good quality cannot be maintained in the weave room unless small details are carefully observed in preparing the warp yarns before they reach the loom. Efficiency in weaving depends largely upon good practices in winding, warping, and slashing. If dyed yarns are used, the process of dyeing also plays a part in determining weaving efficiency.

In the slashing operation the yarn must be properly sized and beamed, free from broken ends, and free from slack sides. The slasher man is usually held to blame for these defects; however, the defect may be attributable to the warping process.

Modern high-speed beam warpers usually come equipped with electrical stop motions on the creel to stop the machine when an end breaks. The headstock should be a sufficient distance from the apex of the creel to allow the machine to stop when the end of the broken thread is at or near the expanding comb which guides the threads onto the beam.

**Broken Threads.** If the distance between the headstock and the apex is insufficient, the broken end may be lost on the beam. The operator then must search and scratch for the end, and occasionally one or more layers of the thread are lost on the beam before the thread is recovered for piecing. Thus, crossed or pulled ends are put on the beam, and these ends are likely to break again and form laps. Such occurrences are troublesome to the slasher man, and eventually the trouble is passed on to the weaver.

If the distance between the headstock and the creel has been found correct and the broken threads still are lost on the beam, then the braking system should be examined for efficiency. The brakes probably need readjusting, or maybe re-lining. Alternately, if the distance is too great, the machine will stop on the indication of a broken thread, but from the front no empty dent indicating the place of the broken thread can be seen. The operator may restart the machine and lose the broken thread on the beam, as the machine indicates for a second time that a thread is broken.

This encourages the operator to develop bad habits, and if the equipment is not fixed will cause much trouble for the slasher man in crossed threads and lappers. An easy way to determine how many yards the machine needs to stop after the electrical indicator has signalled a broken thread, is to watch the length indicator at the end of a full run beam. Suppose the indicator is set at 20,000 yards, but when the machine has finally stopped it registers 20,005 yards; then each time a thread broke it took five yards to bring the machine to a stop.

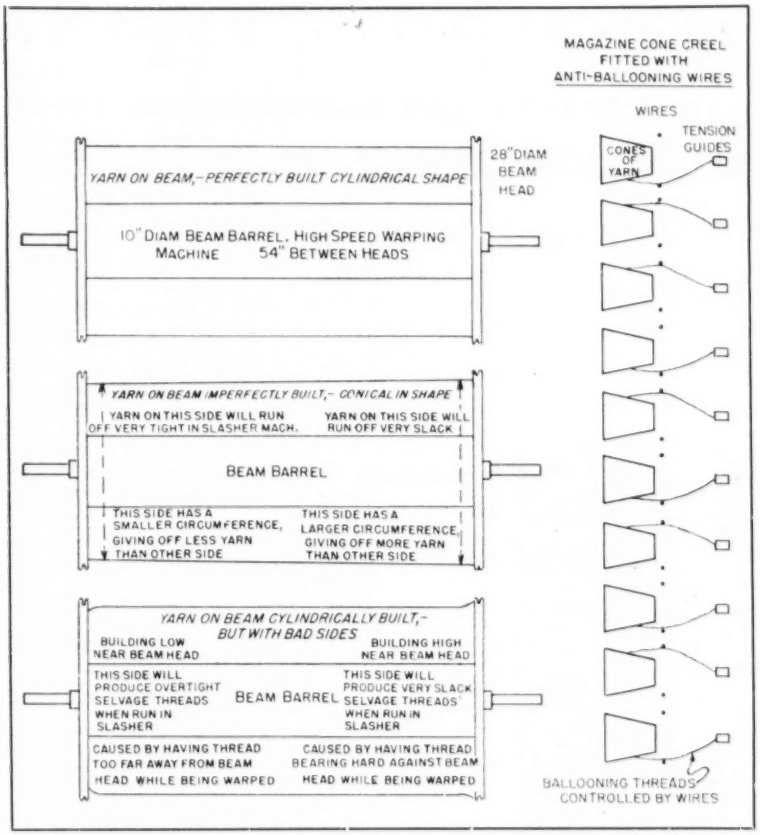
If the brakes were working efficiently, then this figure of five yards is indicated as the correct distance from the apex of the creel to the expanding comb in the headstock.

**Signal Lights.** If a system of signal lights were installed, one to each row of the broken thread indicators on the creel, and such a system were to operate efficiently, then the operator would be greatly assisted. The operator would then know where to look for the broken thread and not develop the bad habit of re-starting the machine to make it show up.

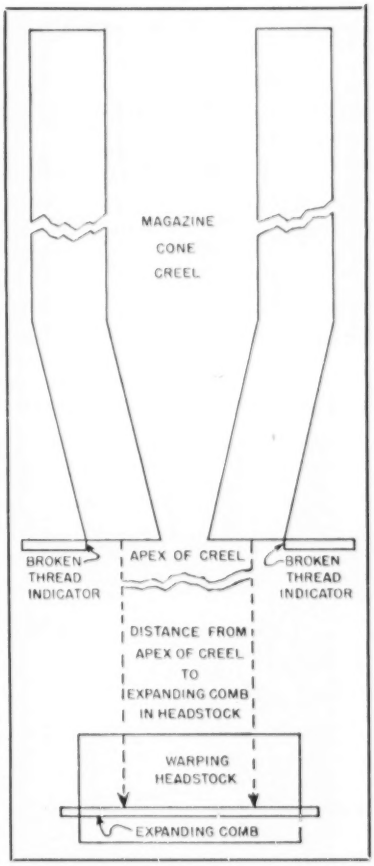
When these broken thread indicators are in use on the creel they are affected by any thread not properly threaded in the tension guides or by any thread that has jumped out of the tensions. Such improperly tensioned threads will cause the indicator to signal a stop. Many such false stops annoy the operator and encourage bad operating habits, so that when a thread is actually broken, the operator does not believe it, and he restarts the machine. Again lost or crossed ends are left to trouble the slasher man.

The foreman of the warping department should be on the lookout for bad habit-forming troubles and check the machines daily for improperly tensioned threads. Such improperly tensioned threads can easily and quickly be found by personally stopping the machine, and then inspecting the drop wires through which each thread passes at the broken thread indicator. All improperly tensioned threads may be noted immediately by the sagging drop wires.

An efficient system of signal light indicators should encourage


MAGAZINE CONE CREEL FITTED WITH ANTI-BALLOONING WIRES
WIRES
TENSION GUIDES
CONES OF YARN
YARN ON BEAM,-PERFECTLY BUILT CYLINDRICAL SHAPE
28"DIAM BEAM HEAD
10" DIAM BEAM BARREL, HIGH SPEED WARPING MACHINE 54" BETWEEN HEADS
YARN ON BEAM IMPERFECTLY BUILT,- CONICAL IN SHAPE
YARN ON THIS SIDE WILL RUN OFF VERY TIGHT IN SLASHER MACH.
YARN ON THIS SIDE WILL RUN OFF VERY SLACK
BEAM BARREL
THIS SIDE HAS A SMALLER CIRCUMFERENCE, GIVING OFF LESS YARN THAN OTHER SIDE
THIS SIDE HAS A LARGER CIRCUMFERENCE, GIVING OFF MORE YARN THAN OTHER SIDE
YARN ON BEAM CYLINDRICALLY BUILT,- BUT WITH BAD SIDES
BUILDING LOW NEAR BEAM HEAD
BUILDING HIGH NEAR BEAM HEAD
THIS SIDE WILL PRODUCE OVERTIGHT SELVAGE THREADS WHEN RUN IN SLASHER
BEAM BARREL
THIS SIDE WILL PRODUCE VERY SLACK SELVAGE THREADS WHEN RUN IN SLASHER
CAUSED BY HAVING THREAD TOO FAR AWAY FROM BEAM HEAD WHILE BEING WARPED
CAUSED BY HAVING THREAD BEARING HARD AGAINST BEAM HEAD WHILE BEING WARPED
BALLOONING THREADS CONTROLLED BY WIRES

**SYMMETRICAL BEAMS** are essential for good slashing. Common difficulties are depicted at left. Ballooning at magazine cone creel may be controlled by wires as shown at right.




**DISTANCE** between headstock and apex of creel must be sufficient; otherwise broken ends may be lost on the beam.

the operator to seek improperly tensioned threads. The distance that the headstock should be from the creel is governed by the speed of the machine and the system of braking that is in use.

If the headstock, as well as the creel, is equipped with drop wires to indicate broken threads, additional insurance is provided against the loss of broken threads on the beam. Sometimes a bunch of waste will entangle the drop wire on the creel, preventing its function of stopping the machine. Also such drop wires at the headstock are very handy. The operator can readily press down on any one of them to stop the machine if occasion so demands.

**Symmetrical Beams.** Perfectly cylindrical beams should be run at the warper if good results are expected from the slasher operator. Trouble is often experienced on beams that are conical in shape rather than cylindrical. On such beams, the circumference of the yarn at one side of the beam is greater than the circumference at the other side of the beam. This difference has been known to vary from as low as one-eighth of an inch to almost one inch. Such a small variation as one-eighth of an inch can be partially remedied at the slasher machine by extra weighting of the defectively shaped beam.

Any variation greater than this means badly assembled weaver's beams and trouble at the slasher.

If one side of the beam gives off more yarn than the other side in each revolution of the beam as it is unwound while passing to the size box, then slack threads will occur, varying from very slack at the offending side, through varying degrees of slackness to the tighter side. No system of weighting the section beams can remedy such trouble.

The trouble will have to be sought at the warper and remedied immediately, or soon there will be chaos in the slashing department. Usually plenty of searching will be required before the cause of the trouble can be located.

**Tracing Beam Troubles.** The operator may cause the trouble; the machine may cause the trouble; both machine and operator may contribute to the trouble simultaneously. The operator may cause the trouble by not properly centering the adjustable expanding comb that guides the threads onto the warping beam when starting a new beam. By negligence or preoccupation, the operator may fail to notice that the yarn is bearing hard against one beam head and a little too far away from the opposite beam head

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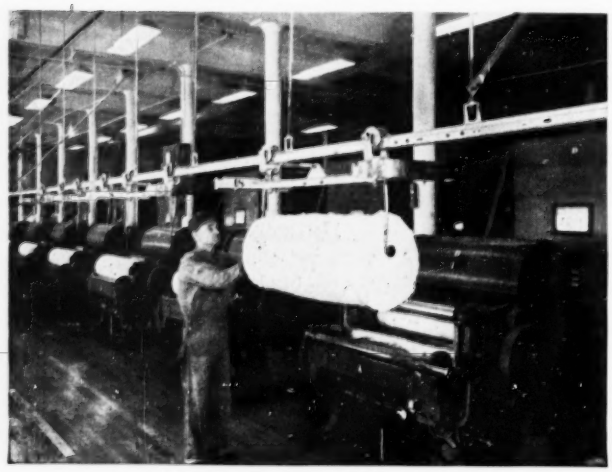

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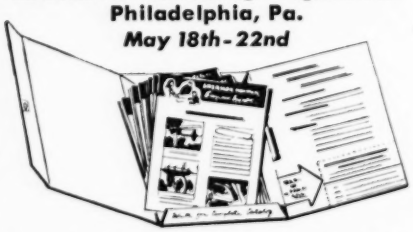

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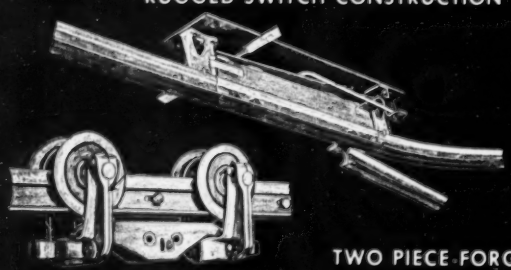
RUGGED SWITCH CONSTRUCTION



OVERLAPPING SPLICE

TWO PIECE FORGED YOKES

SCALE HOIST CARRIER

FREE MOVING CRANES

of the newly started beam.

At speeds of 400 to 1000 yards per minute, it only takes two or three minutes to form the foundation for a conical shaped beam. One side builds up more rapidly than the other. The damage is done in the first few hundred yards, and the defect is accentuated as the beam fills up. This trouble is more likely to occur when a smaller number of threads is being warped than the expanding comb of the warping machine was designed for. This condition requires skipping dents and leaving them empty.

Teach the operator never to allow the side thread to bear against the beam head when running and to allow a space between the beam head and the thread. This space should be equal to the space between all the other threads on the beam.

When dents are skipped because a small number of threads is run on the beam, the space between the beam head and the side thread should equal the larger space of a skipped dent in the comb. If the operator will follow instructions, slack side threads or misshaped beams will be unknown unless there is some mechanical fault in the machine.

**Mechanical Pitfalls.** Such mechanical faults are somewhat common. Check for them in the following order:

(1) Expanding comb.

(2) The empty beam, when in starting position in the headstock, should be parallel with the drum.

(3) The arms which carry the beam in the headstock should be secure and not loose on the keyway of the shaft that carries them.

(4) The shaft which carries the beam arms should be checked to see that the shaft has not come loose or its bearings loosened, and that this shaft is in parallel alignment with the drum shaft.

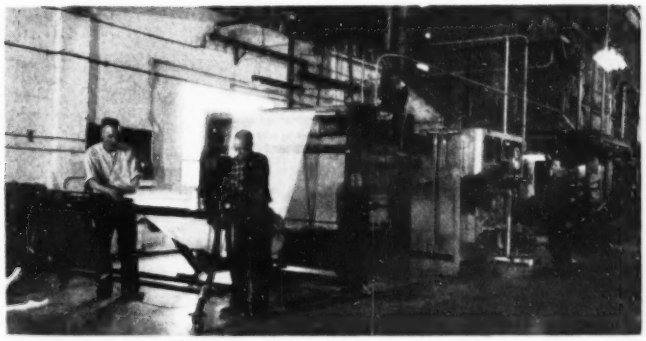
To check the trueness of the expanding comb:

(1) Mark the center wire of the comb.

(2) Count 200 wires on each side of this center wire and mark these. Measure from the center wire the distance to each of the marked outer wires. The distance should be equal in both instances. If not, then the side where the distance is least will build up a bigger diameter of yarn than on the opposite half, where the dents are more openly spaced, thereby making conical shaped beams. The marked center wire of the comb will be off center in its relation to the center of the beam.

Unbalanced expanding combs should be promptly repaired. Strained dent wires in expanding combs cause ridges in the yarn lay on the beam. These are often the result of a knock, but sometimes the strained dents occur so easily and often that they become a real worry and nuisance. Seek the cause in a much too weak gauge of spring wire used to separate and hold each individual dent wire.

Parallel alignment of the empty beam to the drum may be quickly determined when winding the beam into the machine. Slowly wind the beam until it just touches the drum. Check that both ends are touching the drum. If one end does not touch, then it is not parallel. If both sides are touching, check with a spirit level both the drum and the empty beam, to be sure they are on the same plane. Now wind the beam to the run-



## Woven Glass Fabrics Finisher Initiates Coronizing Operation

Glass Fabrics Finishing Corp., a new independent finisher of woven Fiberglas, has initiated Coronizing operations at its plant at Industrial Village, Cedar Grove, N. J., Einar G. Andersen, president of the company, announced recently.

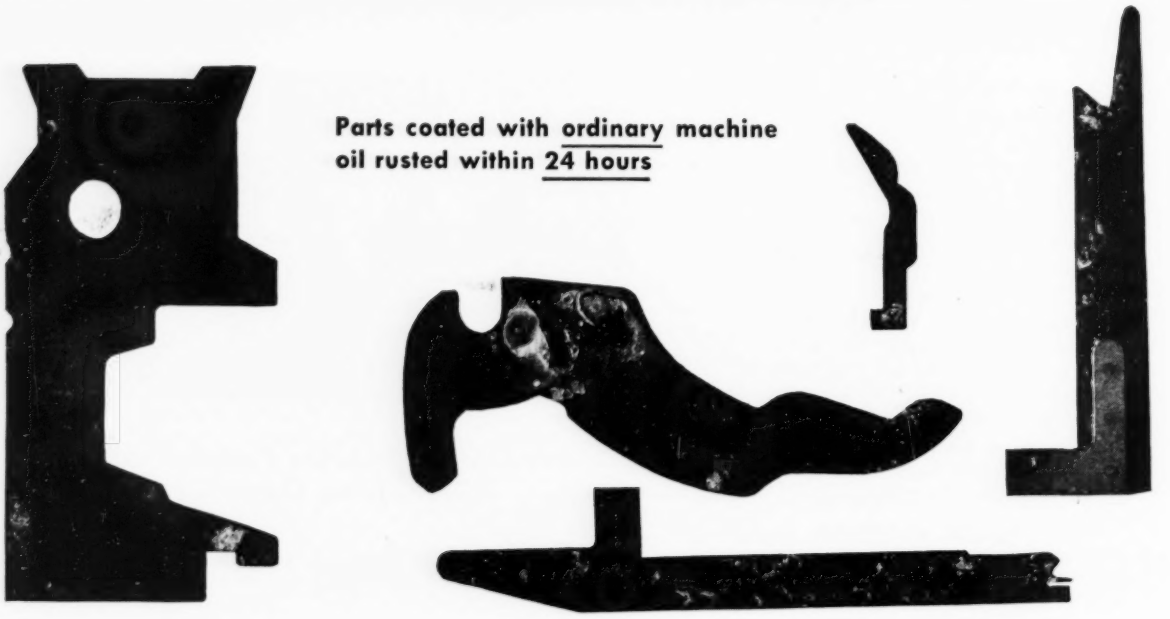
Ownership of the new company is equally divided between Hess, Goldsmith & Co., Inc., and The Waldrich Company, of Delawanna, N. J.

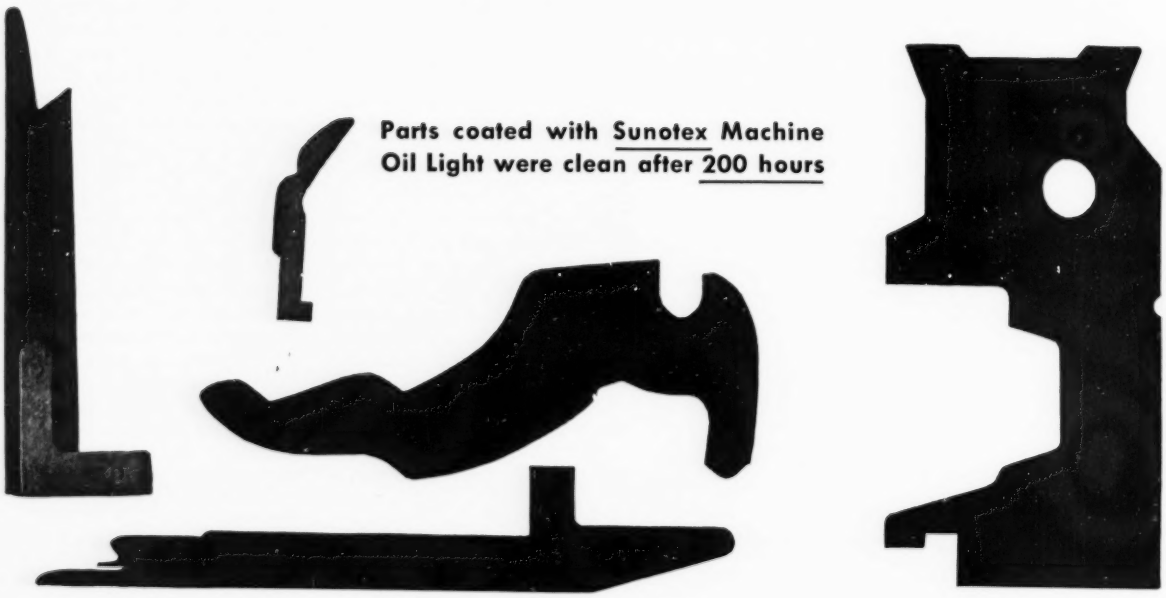
Operating under a license from the Owens-Corning Fiberglas Corp., the new finishing plant is initially processing three finishes for the decorative Fiberglas fabric trade, Mr. Andersen said. These are for marquisettes, piece dye fabrics, and preparation for roller or screen printing.

The company plans to expand its finishing operations to include various processes for industrial glass fabrics by early summer, Mr. Andersen added.

The Coronizing process which is applied to decorative Fiberglas involves the heat and chemical treatment of the fabric after it has been woven. The grey goods are first subjected to intense heat in excess of 1,000 F, which softens and gives a permanent set to the yarn, making it permanently wrinkleproof.

The fabric then passes through a finishing bath in which protective resins are applied, giving the cloth a high resistance to abrasion. This is cured at approximately 340 F and is followed by a chemical bath which fixes the resin to the glass, giving the fabric wash fastness and water repellency. A final curing at 350 F completes the finishing process.

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ning position and again check both drum and beam with the spirit level.

Any difference will indicate the possible center of misalignment. Check the arms which carry the beam, paying particular attention to the possibility of loose keys or set screws, and the holding brackets also. True parallels of all these points are a necessity if true cylindrical beams are to be produced when filled with yarn.

**Winding.** The warper operator also has troubles not of her making, and these are often traced to bad habits of careless winder operatives. Bunched yarn on the cones sometimes sloughs off and occasionally becomes entangled in the tension and guide wires. Sometimes bunched yarn passes these points and goes through the dents of the expanding comb and on to the warper beam where it is soon hidden by the rapidly winding layers of yarn. These bunches cause the slasher operator trouble after the size has dried. Other threads are broken as the bunch passes through the dividing rods and expanding comb at the slasher headstock.

The cone winder operative can eliminate some of the difficulty by always taking up the slack of the thread with one hand, and gently releasing it upon restarting a winding head after piecing up a broken thread. This system of control of the thread should also be followed when starting up a new cone, thereby helping to prevent bunched yarn and bad transfers from emptied cone to new full cone in magazine cone creels of warping machines.

Bad transfers of bunched yarn that slough off when changing from emptied cone to new full cone when using magazine cone creels in warping machines can be the source of untold trouble for everybody concerned, whether they are warpers, slashers, or weavers.

Cones not properly in alignment with the drum of the winding head, bouncing winding heads having inadequate tension, cones not fitted securely in the carrying mechanism of the cone winding machine, and bad habits of the winding operator may contribute to bad transfers in the magazine cone creel of the warping machine.

Cobwebbed winds protruding over the usual lay of the yarn on the wound cone, either at the nose or base of the cone, give endless trouble to the warper operative. The cobwebbed wound yarn may slough off at the nose, but such a miswind definitely means a broken thread when it occurs at the base. Miswinds may be produced somewhat like bunched yarn, either by improper setting of the winding heads or by carelessness of the winder operative.

**Dyed Yarns.** Cobwebbed winding of the yarn on the cones can also be caused by the dyer when dyed yarns are left harsh and brittle. Such harsh yarn jumps out of the thread guides. The winder operative should be encouraged to report any and all signs of cobwebbed winding. The dyer can remedy the trouble by softening the yarn in the final washes, and by not over-drying the yarn.

Although the winder may struggle with harsh dyed yarns and give a reasonably wound set of cones, the warper operative will experience trouble in trying to warp them.

Each layer of harsh yarn clings to the next layer of yarn on the cone, thereby increasing the tension on each thread. Excessive breakages occur, causing lost threads on the beam. These difficulties trouble the slasher man with lappers and crossed ends, and the weaver with lost and broken threads. At best the warper's beam will be full of ridges because of unequal thread tensions, especially when natural white and colored threads are on the same beam.

Sometimes warper operatives are unduly troubled by cut ends, usually at the turnover of the wind at the base of the cone. Seek this trouble in worn thread guides when reciprocating thread guides are in use on the winding machine. In grooved drum winding, look for misalignment of the empty cone to the drum.

The layer of yarn that is cut is the previous layer wound, and not the layer actually being wound. That is why the winder operators always deny having seen or caused such cut threads. If allowed to develop, cut threads will cause much trouble for the warper operator.

**Ballooning.** Yarns of very low count, highly twisted yarns, and especially linen yarns, develop excessive ballooning at the cones as they are being warped. Such excessive ballooning will cause the threads to entangle, and although the threads are strong, such entanglements cause excessive thread breakage.

Also, excessive ballooning causes the threads to jump out of the tension arrangements and even to throw the tension discs to the floor. Slower speeds will help to remedy this trouble, but without reducing speed the difficulty may be remedied by stretching ordinary stove pipe wire from front to back of the creel. Two wires should pass between each row of cones, and the two wires should be spaced about two inches apart. The wires should be in a line about one inch in front of the nose of the cone. These rows of wires may be firmly secured to a post at the head end of the creel, and by adjustable thumb screws secured and tightened at the base end post.

The tendency to balloon is now stopped before balloons can be formed. The threads beat against either a lower or upper wire. The wires will not interfere with the smooth warping of normal type yarns. Naturally such an installation is only necessary when a large quantity of excessive ballooning type of yarn is to be warped.

When the slasher man has been provided with perfectly run warper beams for use in the back creel, he has certain definite duties to perform. He should match skill with skill to produce a perfectly run, sized, dried, and assembled loom beam that should produce excellent cloth at optimum efficiency. The set of warper beams must be properly and equally tensioned. Each beam must be properly aligned, with the widest beams in front (if of dif-

## Rayon...Acetate...Nylon...Orlon...Dacron

HONEYWELL now extends the scope of the *Moist-O-Graph* principle . . . making a single instrument capable of measuring percent moisture in *any* warp, simply by turning a switch.

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For mills which process varied types of fibres using different sizing materials, this advancement means that the full advantages of complete slasher control are always realized. The method has been thoroughly tested in both laboratory and mill. It is working today on acetate, viscose and nylon yarn, spun yarn, and worsted and rayon blend—sized with gelatin, starch, Stymer or Orthocryl. Among the leading mills which use *Moist-O-Graph* are:

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### reads regain directly

Today's *Moist-O-Graph* incorporates features which Honeywell has developed following more than 15 years of pioneering experience in this field. Notable among these features are the instrument's direct reading scale and chart . . . the slasher operator doesn't have to interpret, consult tables. He sees on the instrument an indicated and recorded measurement that immediately tells him actual percent regain. And this calibration is made *at the factory* . . . does not require field adjustment. The measuring instrument is an *ElectroniK* recorder, famous throughout industry for accuracy and dependability.

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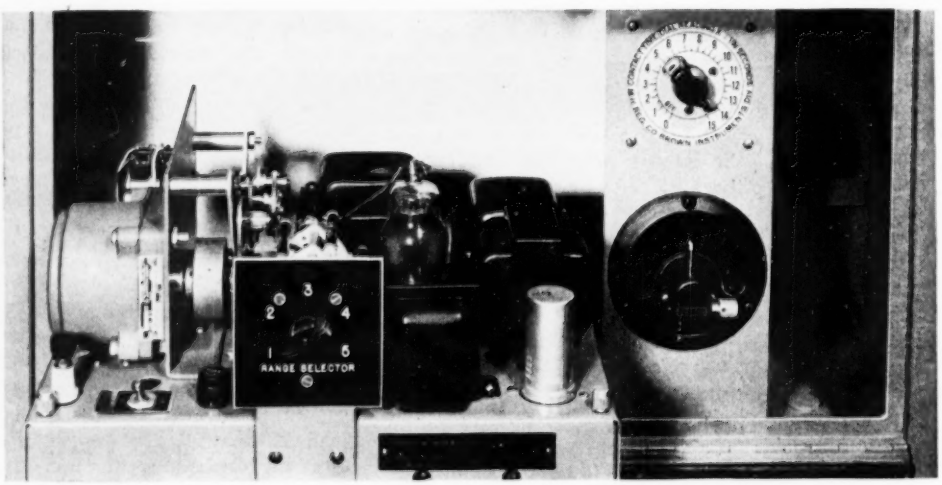
When there's a change in the fibre fed to the slasher, or in the size used, all the operator has to do is turn a selector switch to the proper range. The calibration then applies to the new operating conditions. The only other adjustment that the operator has to make is to set the index at the desired regain.

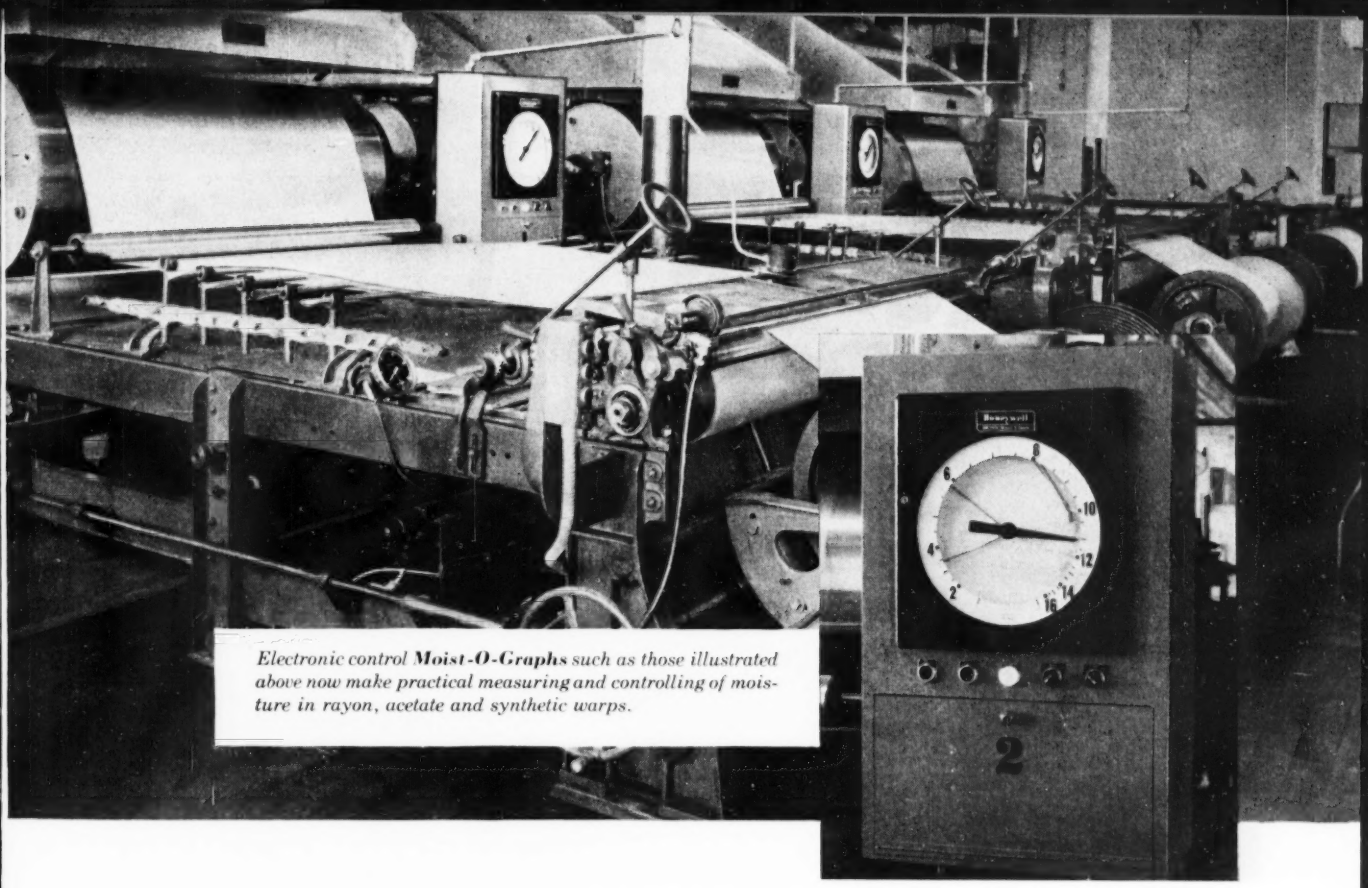
### part of complete slasher system

For automatic control of regain, the *Moist-O-Graph* regulates slasher speed to maintain the correct drying rate. The result is that the slasher operates at the maximum speed possible for a given warp. This control is integrated with other Honeywell instruments, which are combined into complete systems for efficient, centralized regulation of the entire slashing process.

# *Moist-O-Graph*®—
# of rayon,




*A turn of this switch changes the* ***Moist-O-Graph*** *calibration to read percent regain directly, for any fibre, blend and/or size.*



*Electronic control* ***Moist-O-Graphs*** *such as those illustrated above now make practical measuring and controlling of moisture in rayon, acetate and synthetic warps.*

# for controlled regain acetate and synthetic yarns

REGARDLESS of the fibre you're processing, you can measure and control warp moisture directly by means of the versatile, electronic multi-range *Moist-O-Graph*.

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Added to this benefit of better weaving is the attendant increase in slasher room production, made possible by the fact that the *Moist-O-Graph*:

- *prevents overdrying of yarn, resulting in fewer stoppages*
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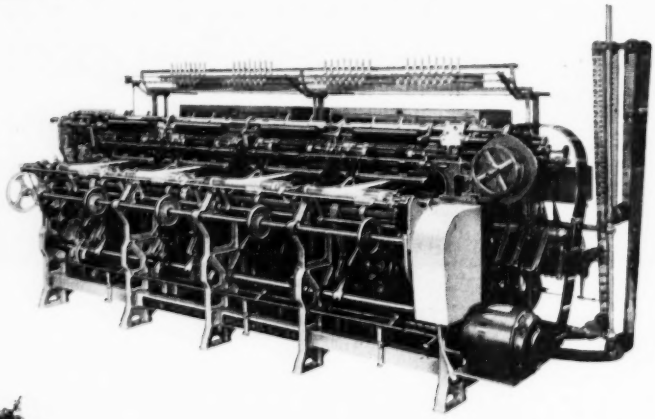

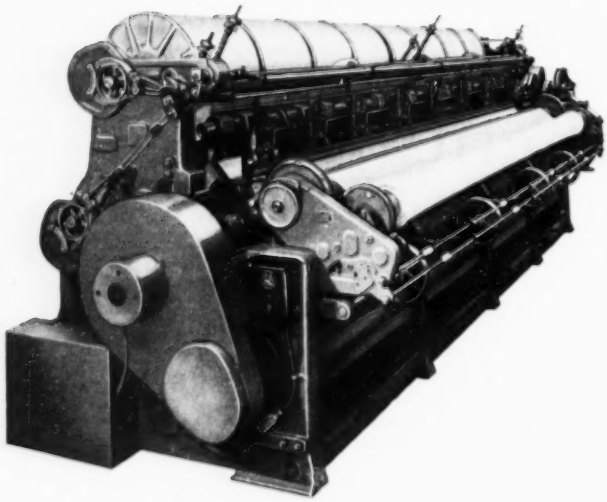

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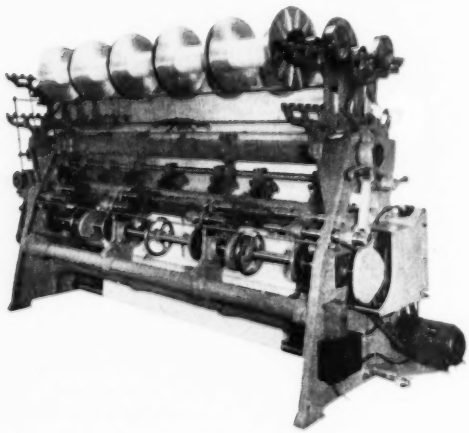

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ferent widths).

The set should be centered and squared to the slasher so that the yarn when passing over the drying cylinders will be equidistant from both sides. The size box should be kept clean and all old size should be removed if there is any doubt regarding its consistency and value. The sizing flannels should be examined, trimmed, and renewed if necessary.

**Size Roll Covering.** The primary duty of the slasher man and his machine is to produce perfectly sized warps, and not to try and save a little sizing flannel cost by using the flannels too long at the cost of good sizing. Nothing is better than an all-wool flannel for holding and distributing the size equally over and around all threads in the set. Nylon may wear longer, but it does not hold the size in suspension as does wool. Such suspension produces a cushioning effect that aids even sizing. Sometimes a layer of cotton sheeting is passed around the roll of sizing flannel on the squeeze roller. The object is again to save a little sizing flannel cost, but the procedure causes dirty and sticky drying cylinders and more shedding at the loom.

When tying in the ends of the new set to those of the old set, the slasher operator should have all threads equally tensioned.

It is desirable to turn off the supply of steam to the drying cylinders sometime before the last set is finished. This practice assures warm, but not overheated drying cylinders for the new set while the machine is stopped for laying-in the new set of threads in the expanding comb. This practice also prevents overdrying or burning of the yarn wrapped around the drying cylinders while the slasher man takes time to lay-in.

The slasher operator should be careful in laying-in or picking the threads for laying-in, to be sure they are not crossed and are equally selected from each layer of threads from each warper beam, so that "stickers" of two or more threads are prevented.

The loom beam heads must be set true and parallel. Also the spikes or gudgeons of the beam must be true, and the beam well centered in the slashing machine headstock. It is the slasher man's primary duty, whether the slasher is of the old fashioned type without automatic controls, or of the latest type with automatic for almost everything, to check and countercheck to ascertain that the size is right and correctly applied to the yarn. The sized yarn must be properly dried; neither underdried nor overdried. Also, the ends must be kept straight and secured when each beam is doffed so that the beam tying operator will have no difficulty in picking up the threads in the correct order to enter into the heddles of the loom.

**Size Mix.** If good weaving is expected, everyone who handles the yarns in all processes of preparation for the weaver must play his full part in the team to produce the best results; the proof of good preparation is good weaving.

The formula used for size mixing will also play a prominent part. Local conditions, types of yarn, the ends and picks in the cloth, the speed of the looms, and many other items must be taken into account when preparing the formula for the size mix.

A quick method of determining if the sizing formula is correct is to note not only how many warp threads break at the loom during weaving in a given time, but to study *where and how those threads broke.*

If the broken threads are found entangled between the reed and the heddles, it indicates that the size is on the weak side, possibly containing too much softener, or too little starch for the amount of water used.

If the threads are found to have beads of loose fibers on them, and such beads lie behind the reed and in front of the heddles, that condition definitely points to weak size and too much softener. On the other hand, should the threads snap back on breaking, it points to overdrying or shortage of softener in the size mix.

## Man-Made Fiber Production Off 7%

United States production of all man-made fibers in 1952 totaled 1,396,400,000 pounds, or 7 per cent below the record 1951 production figure of 1,503,900,000 pounds, according to the "Textile Organon," statistical bulletin of the Textile Economics Bureau, Inc.

Rayon output of all types was 806,300,000 pounds in 1952, a 7 per cent decline from the 1951 figure of 865,400,000 pounds. Acetate production was 329,500,000 pounds against 428,800,000 pounds in 1951.

On the other hand, last year set a new record for output of the non-cellulosic fibers, the total being 260,600,000 pounds or 24 per cent higher than 1951.

World rayon and acetate production last year is tentatively estimated by the Bureau at 3,400,000,000 pounds, a decrease of 14 per cent from the 1951 record figure of 3,957,000,000 pounds. Filament yarn at a 1,800,000,000-pound estimated world total decreased 15 per cent compared to the previous year, while staple and tow production at 1,600,000,000 pounds was down 13 per cent.

Of the 1952 United States rayon and acetate output, 73 per cent or 828,800,000 pounds were filament yarn and 27 per cent or 307,000,000 pounds were staple and tow. In spite of the noted decline from 1951 to 1952, last year's rayon and acetate production was 3 times as great as the 1939 pre-war output.

Rayon and acetate imports into the United States during 1952 are estimated to have amounted to 69,200,000 pounds of yarn and staple and tow, representing a 28 per cent decline from 1951. Total available supply for consumption during 1952 amounted to 1,215,400,000 pounds of filament yarn and staple and tow, a loss of 5 per cent compared to 1951 and 10 per cent below the all-time record year of 1950. Producers' exports from the United States last year totaled 14,300,000 pounds, leaving a net import balance of 54,900,000 pounds.

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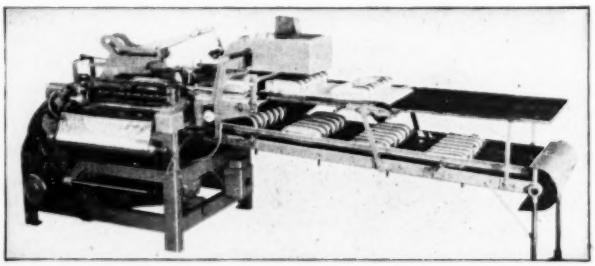

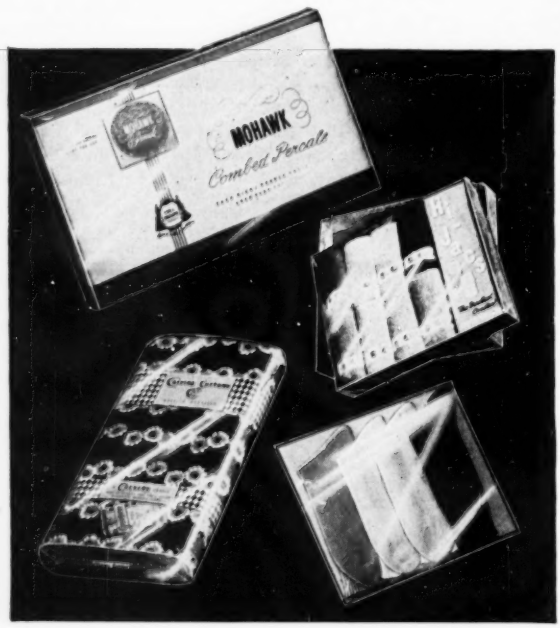


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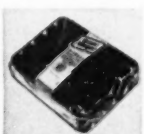
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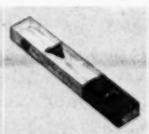
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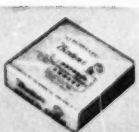

DAIRY

PAPER

***". . . our lawgivers should . . . reduce or eliminate those taxes which don't raise much money and do cause a great deal of harm."***

# The Philosophy of Taxes

**By RINGGOLD ARDEN**

EXCLUSIVE

LAST MONTH we wrote about the toll that taxes take from the citizens' incomes (T. I. for March, page 145) and that is the phase of taxation which appeals most poignantly to the citizens. An even more important phase is one which is seldom considered, and that is the philosophy of taxation itself. In the minds of most persons who pay them, taxes represent the citizen's contribution toward the cost of running his government, and these persons seldom delve into the underlying reasons behind many of the taxes imposed.

Taxes from time immemorial have been imposed, not only to raise revenue, but as an agency of government itself to force persons to do things, or not to do things that would be difficult to control otherwise. It is perfectly apparent that any government must have funds for its operation, and that these funds must be collected from the people who are to be governed. Having once agreed that this is to be the case, governments proceed to levy all manner of taxes as instrumentalities of government itself.

**Graduated Income Tax.** The most glaring example of this is the graduated income tax. The income tax is probably as old as incomes themselves. One of the first mentions of this tax is in the Book of Genesis, where it is told how Joseph taxed each man 20 per cent of his income to provide for the expected days of famine. Here, also, we see perhaps the first recorded example of taxes being used as an instrumentality of government. The grain that Joseph collected and hoarded in the State warehouses was not accumulated for the benefit of the people, but for the use of the government to enslave them.

Plato speaks of an income tax, and it was a common form of taxation in Rome and in England before our Revolution. The astute gentlemen who wrote our National Constitution had been intimately and painfully acquainted with the income tax, and they wrote into this Constitution the provision that "no capitation, or other direct, tax shall be laid, unless in proportion to the census or enumeration hereinbefore directed to be taken." There were other provisions in the Constitution indicating that taxation must be imposed on a fair and equal basis. It was the foolish adoption of the Sixteenth Amendment, without any safeguarding restrictions, which permitted our Federal Government to adopt the practice of imposing a graduated confiscatory income tax.

It was undoubtedly the intention of those who established our government that all persons should be fairly taxed on a proportional basis, and there is nothing in the records of those days which would indicate that responsible persons thought that it might be fair to take 10 per cent of one man's earnings and 75 per cent of another's.

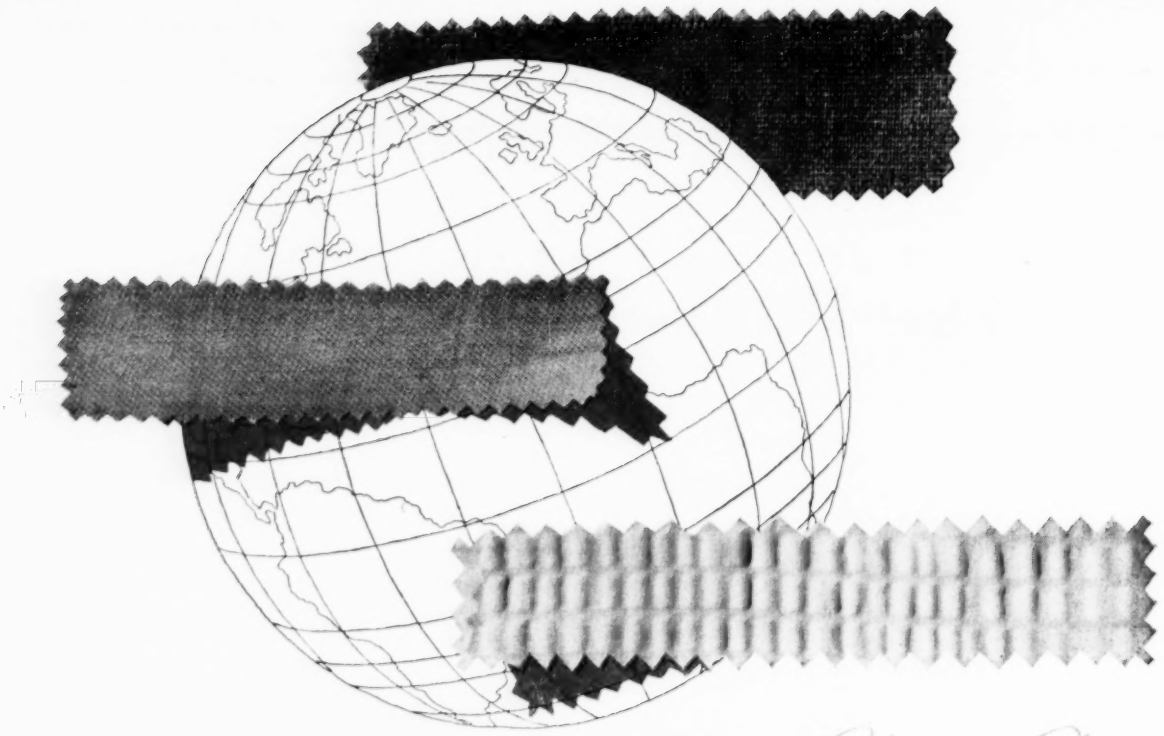
The graduated income tax was a device proposed by the early socialists and communists, not as a means for raising revenue, but as a means of destroying the well-to-do classes. When these graduated income taxes were first proposed by the communists, most wealth was in the hands of landlords or capitalists; and it was largely static wealth which changed in nature very little and probably increased even less.

The communists reasoned that the great landholders and property owners derived their income from rentals on land or buildings, and from trade carried on under monopolistic conditions, so that a graduated income tax was the most practical manner of retrieving from these capitalists what they had extorted from the common people.

The early designers of communism or socialism could not possibly have imagined the dynamic capitalism or industrialism which we have today, when wealth is an extremely fluid thing which is being multiplied with tremendous rapidity. Perhaps 75 per cent to 90 per cent of all of the national wealth of the United States is in things which had never been heard of or imagined 200 years ago.

Therefore, taxes which were recommended by Karl Marx and his associates as a means of preventing the accumulation of static wealth by a small number of persons, now prevent the production of our fluid wealth by great numbers of persons. We have deliberately adopted a system of taxation which tends to stifle the very things which most of our people consider most desirable.

The graduated income tax lays its heavy hand with increasing severity on the successful business man whose business is not in-



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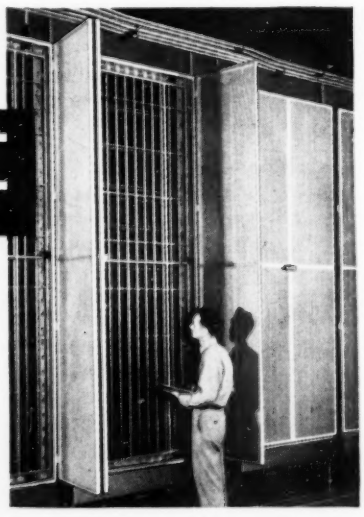

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corporated, and he is generally forced by this tax system to incorporate it. Having once incorporated, his taxes are lightened somewhat until his business grows to a certain point; and then his tax burden is sharply increased to keep the business from its further normal growth. If the small and growing business is unusually well administered so that it makes an exceptional profit, there are further penalties imposed upon good administration and its attendant profit.

The whole tax system here seems to be skillfully designed to prevent the development and expansion of new businesses. It is a queer philosophy of taxation which aims at stunting and destroying potential tax possibilities.

**Inheritance Tax.** Another pet tax scheme of the communists and socialists is the inheritance tax, which was admittedly aimed at breaking up large estates and the prevention of the accumulation of huge fortunes over a few generations. This inheritance tax was strictly a European scheme, and in countries where most wealth was in real estate, and most of it in the hands of small family groups.

The inheritance tax may have served to collect a lot of money for the government while it was destroying the estates of the wealthy.

In the United States, however, the estate tax yielded about 750 million dollars in 1952, out of a total tax bite of 65 billion. As a revenue producer, this tax turned in slightly more than one per cent of the total tax collections, and therefore as a money raiser it was a flop; but as a means of destroying numbers of promising businesses, it was quite successful.

**Gift Tax.** The gift tax is one of the most peculiar of all. The philosophy behind the gift tax seems to be that of the communists who contend that nobody should be allowed to own anything, and that everything should be the property of the State. It seems difficult to reconcile a gift tax with any other reasoning except that of the communists.

To justify a gift tax, the State must assume that a man's money really isn't his, but is just being held in trust for the Government, and that the Government expects to get all of it sooner or later by one sort of taxation or another, and therefore the man who nominally owns the money, but actually doesn't, must not be allowed to give it away or dispose of it. The gift tax is therefore one of that breed of taxes imposed, not to raise money, but to keep people from doing some specific thing.

In 1952, the total collections from gift taxes came to slightly over 82 million dollars, or not much over one-tenth of one per cent of the total tax take.

**Estate Taxes.** There may be some logic in the communist philosophy of estate taxes as applied to very large estates, which might represent accumulations of power dangerous to the government and to the welfare of the people. This communist philosophy of taxation has, however, been applied so drastically to relatively small estates that it has led to the destruction of great numbers of them. The tremendous growth of our big corporations has been hastened and fostered by this peculiar philosophy of taxation which forces a successful businessman to sell his business before he dies, because otherwise the government will destroy it with taxes.

Such a tax philosophy is perfectly normal for communists, but seems rather stupid in a country like ours, where the constant multiplication of wealth and the widespread development of new enterprises is dependent on reasonable accumulations of capital in growing businesses, which maintain extensive payrolls and contribute so much to the welfare and happiness of great numbers of persons in thousands of communities.

There is a great difference between taxing static wealth and taxing earned income. A tax on earned income is, in effect, a demand by the government for so many days of work each year from the person paying the taxes. If the government requires the services of each citizen for ten days out of the year, or 20 days, or 30 days, this is an equitable proposition. The time of the highly skilled executive or the doctor or lawyer is worth a great deal more than the time of the common laborer, but so long as each man devotes the same amount of time to the service of his government, there would seem to be nothing unfair about the proposition.

Conversely, there seems to be nothing fair about the communist contention that the common laborer should give nothing of his time to his government, and the highly competent executive should devote three-fourths of his to it. Of course, neither the common laborer nor

## Machine Clean-Up Costs Reduced with "Anti-Stick" Coating

A new material known as "Teflon" polytetrafluorethylene finish is finding increasing use in the textile industry as a coating on machinery parts, chiefly because practically nothing will stick to it.

To date, most extensive application of this DuPont-developed plastic in this field is on slasher cylinders where it greatly prolongs the period between clean-ups.

The finish is unaffected by any of the chemicals normally used in the textile industry. There is no known solvent for "Teflon." It has, moreover, a low coefficient of friction, being slippery or waxy to the touch. The material remains solid up to 620 F. Maximum recommended operating temperature is 480 F, although it is being used at 550 F.

Sizing liquids will not stick or build up on coated drying cans, thus making heat transfer more efficient and permitting faster production speeds. Some of these cans are still in service after more than two years.

Other parts where non-adhesion reduces or practically eliminates "down" time losses include vats, troughs, drums, pails and ladles. Metal feed rolls, scroll rollers, and tenter frame pin plates have also been coated successfully.

the pauper can escape taxes entirely, because taxes are embedded in the cost of everything that you eat or drink or use, and in many things that you just look at. The graduated income tax, however, is a scheme based on the assumption that one man should not work for the government at all and another one should devote three-fourths of his time to government work as his contribution to the support of that government. This seems to be quite clearly a communist-socialist philosophy, aimed at down-grading the competent and productive, and up-grading the shiftless and incompetent.

In considering tax reduction, our lawgivers should not only reduce the total burden, but reduce or eliminate those taxes which don't raise much money, and do cause a great deal of harm.

## Suggestions for Vat Dyeing on Packages

For most satisfactory results in vat dyeing, the dyestuffs should (1) be clean and well dispersed; (2) have good level dyeing properties; (3) check with each successive dyeing; (4) have the same working properties as the other dyes in the combination.

To determine whether dyestuffs are clean and well dispersed, many plant laboratories utilize filter tests.

Reduced Filter Method: Weigh out and disperse 1 - 5 grams dyestuff; reduce with correct caustic, hydrosulphite, water volume, temperature, time. Dissolve in wash bottle containing 500 cc water at dyeing temperature 5 grams caustic and 5 grams hydrosulphite. In beaker containing 400 cc water at dyeing temperature add 100 cc from wash bottle and 1/5 of reduced dyestuff. Filter this solution through Bushner Funnel, using a 15 cm Whatman No. 3 paper. Wash filter and oxidize residue with perborate. Visual amount of dirt and other foreign matter gives dyer indication of what to expect on outside or core of his packages or beams.

Pigment Filter Method: Disperse 1 gram double paste or equivalent in 100 cc water at dyeing temperature for 30 minutes; filter through a 15 cm Whatman No. 3 filter paper; dry and examine paper. An addition to this method is to allow the dispersed dyestuff to stand overnight before filtering. This test gives a control picture of the particle size and dispersion of dyestuff for pigment dyeing method.

Dyes good for reduced method are not necessarily satisfactory for pigment dyeing method due to dispersion or particle size. If degree of dirt or other foreign matter is too great for reduced method, it is also detrimental in pigment dyeing, no matter how well dye may be dispersed. Laboratories should establish their own set of standards, keeping in mind the fact that all dyes will show impurities on filter paper to a more or less degree.

Other desirable dyestuff characteristics such as level dyeing, good working properties, etc., can best be determined by plant laboratory tests.

Dyers with limited knowledge of vats should utilize the pigment method by which most of the vats can be successfully dyed.

Preparation of yarn for dyeing by boiling-out with acetic acid has proved very satisfactory on beams, cheeses, and packages in many dyehouses.

It is a good practice to make a dispersion of vat dyes before dyeing, regardless of whether they are paste or dispersed powders.

Many leveling agents will retard one vat dye and have no effect on another while a third dye may be nearly destroyed. It is necessary to know the individual dye reactions in order to select intelligently the correct retarding agent.

**Pigment Dyeing.** This method is used successfully in many dyehouses: Boil out for 30 min. at 200 F with 1 - 2% penetrant and 2% soda ash. Drain, refill, and circulate for 5 min. at dyeing temperature: 0.50% Calgon and retarding agent if required. Disperse dyestuff for 20 min. at dyeing temperature while yarn is being prepared. Add dispersed dye over 20-min. period. Dissolve and add caustic over 20-min period. Add hydrosulphite over 10-min. period. Circulate 20 min. Sample for shade. Give a running wash "inside-out flow" without shifting until clear. Drain, refill, and circulate 15 min. at 120 F 1 - 2% perborate. Drain, refill, and soap-off 15 min. at 180-200 F with 0.50 - 1.00% detergent and 1.00% soda ash. Drain, rinse for 10 min. at 120 F. Drain, extract and dry.

The amount of caustic and hydrosulphite used for pigment dyeing is not as critical as in reduced method.

**Reduced Dyeing.** Prepare yarn as for pigment dyeing. Fill with water and raise to dyeing temperature. Circulate for 5 min. 0.50% Calgon, 0.50 - 2.00% caustic, 0.50 - 2.00% hydrosulphite, retarding agent (if required). While yarn is being prepared, disperse at the reduction temperature for 30 min. the dyestuff and Turkey Red Oil. Add the dissolved caustic. Bring to correct reduction volume and temperature. Add dry hydrosulphite. Reduce for required time cycle. Add reduced dyestuff in one or two portions. Circulate 45-60 min. Sample for shade. Give cold running wash with "inside-out" flow until clear. Oxidize and finish same as a pigment dyeing.

Total amount of caustic and hydrosulphite required depends upon: (1) amount of each necessary to reduce dyestuff; (2) total amount of each required to give a satisfactorily reduced dyebath throughout operation.

*Abstract of paper by Ernest L. Caswell of Ciba Co., Inc., before Southeastern Section, AATCC, in Talladega, Ala.*

CIBA

# Dyers' Digest

PUBLISHED FROM TIME TO TIME AS A REPORT ON LATEST DEVELOPMENTS IN CIBA DYESTUFFS RESEARCH

## NEW CIBALAN® DYESTUFFS "FAMILY" GIVES IMPROVED LIGHT & WET FASTNESS ON WOOL, SILK, NYLON, BLENDS

*12 Cibalan Colors provide immediate diversified range. Dyeing procedure is short and easy.*

The development by Ciba Research of the Cibalan line of dyestuffs has been the culmination of years of research to meet a widespread need of dyers for a group of colors which by simple and shorter application methods would produce very fast shades on wool without appreciable loss of the natural characteristics, resiliency and strength. While the research objective was primarily to develop a line of colors with exceptional light and wet fastness for wool, Ciba Research has extended the practical use of these "metal complex" dyestuffs to encompass nylon, silk and blends as well.

### *The* CIBALAN *Colors*

The following original types represent the beginning of this interesting series . . .

CIBALAN YELLOW GRL
CIBALAN YELLOW 2BRL
CIBALAN ORANGE RL
CIBALAN BROWN 2GL
CIBALAN BROWN BL
CIBALAN BROWN TL
CIBALAN KHAKI GL
CIBALAN SCARLET GL
CIBALAN BORDEAUX 3BL
CIBALAN BLUE BL
CIBALAN GREY BL
CIBALAN GREY 2GL

With the practical needs of the dyer further in mind, the Cibalan line of dyestuffs were withheld until a range of 12 colors could be made available. The entire range of Cibalan colors are listed below.

#### The Chemistry of Cibalan Colors

The Cibalan dyestuffs can be said to have happily combined in their chemical constitution, behavior in dyeing, and in certain of their properties, features which in a broad sense place the Cibalans between the Neolan and Chrome Fast dyestuffs. Like the Neolan colors, the Cibalan dyestuffs are "metal complex." This means that *in the dyestuff molecule* a metal is formed which produces a soluble-metal dye complex with an affinity for animal fibers. These complexes are extremely stable and are noted, above all, for their high resistance to sunlight exposure.

The union of metal to dye within the molecule makes it possible for fibers dyed with Cibalan dyes to be spun readily. This is a very apparent advantage over Chrome dyed wool where the building of the complex takes place *within* the fiber itself. With Cibalan dyes no fiber embrittlement occurs which means the fiber may be drawn and spun after dyeing into a more even yarn that is trouble-free in winding, knitting and weaving.

Some of the advantages offered by Cibalan dyestuffs are . . .

1. Light and wet fastness equal to Chrome colors but dyed by a shorter simpler procedure.
2. The simple neutral dyeing produces wool raw stock, with unusual loftiness and fiber strength. See if your carding room overseer does not agree.
3. Tippy wools and wools of various origins are dyed uniformly.
4. Cibalan dyed woolens are practically unaffected by chlorination shrink proof processes.
5. In blended fibers and fabrics the wool, nylon and silk components can now be dyed as fast to light as the cellulosic fibers with Chlorantine Fast types.
6. In the above blends Cibalan shades are unaffected by copper salt after-treatment of the dyed cellulosic fibers.

*Wool, Silk, Nylon fabrics made from Cibalan dyed stock, tops, yarn and piece goods mean increased consumer satisfaction. Cibalan dyestuffs offer new opportunities for the production of shades of outstanding fastness on loose wool, slubbing, weaving, knitting and carpet yarns, and piece goods.*

*For further details on Cibalan dyestuffs, address* Ciba Company, Inc., *627 Greenwich Street, New York 14, N. Y., or contact the Ciba offices in Boston, Chicago, Charlotte, Providence, San Francisco or Philadelphia.*

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GREENVILLE, SOUTH CAROLINA
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**Write to the Editors!**

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

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Recently, we reeled one 120-yard skein from two bobbins each from 50 spinning frames running on the same yarn number and from the same hank roving. We made a frequency distribution of the weighings. The extreme variation

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**awarded the winner.**
**your entry now!**

**t ends July 15, 1953.**

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**test will be paid for immediately upon acceptance. The $100** award will be made as soon as **all entries are judged.**

The contest rules are simple:

► All contributions must be postmarked not later than midnight, July 15, 1953.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

# Always Uniform

Thread . . . whether on a seamstress' spool or a mill spindle . . . must conform to high standards . . . inch after inch, mile after mile.

That goes for Victor Mill Starch, too. Mill men know they can depend on its unvarying quality . . . the uniform penetration, strength and smoothness it provides.

Both Victor and the Keever man who serves you, are known as "The Weaver's Friend" throughout the industry.

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# HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

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## Comments on Yarn Variation

EDITOR TEXTILE INDUSTRIES:

I do not suppose that it is possible to make yarns, from either natural or man-made fibers, which are without variation. Neither would it be necessary, or even desirable, to produce perfect yarn. It is desirable to spin yarns with a minimum of variation, dependent upon the quality of the end-product for which the yarn is intended and the cost of producing such yarns.

Formerly, in mills producing coarse yarns (6s to 15s) there were well over 2000 doublings. With the coming of one-process picking and long draft in roving and spinning, and with greatly improved drawing, the doublings have in some cases been reduced to as low as six. It is well known that doublings do not reduce *short term* variation (short term variations are increased with the doublings)*; *long term* variations, such as are so evident in ordinary card sliver, are decreased by doubling and drafting.

When the first mill began to reduce the number of doublings, and thus reduce the cost of manufacture, then of course other competing mills had to fall in line to stay in business.

I remember when lap testing was practically unheard of. Of course laps were weighed and were kept within a certain tolernace. There was no yard-for-yard testing. Sliver testing, except for daily weighings in the card room, was unknown. Later, instruments were invented for testing both the laps and the sliver — and also the roving — but these instruments were kept in the card room and were operated by untrained personnel, under varying atmospheric conditions, and in most instances tests were made on a very haphazard schedule.

Now, many mills make these tests under controlled atmospheric conditions, on a very definite schedule, and by trained laboratory technicians. In recent years, instruments employing electronic principles have been developed and are in daily use, testing not only the card and drawing sliver and the roving, but the yarns as well. The principle has been applied to lap testing, although I would not say that this application is in actual use in any mills at present.

With adequate means for measuring variation available, the big question is: "What can we do about variation in our own mills?"

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**KINK CONTEST!**

**$100 will be awarded the winner.**
**Send your entry now!**

**This contest ends July 15, 1953.**

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

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Send your contest entry to:

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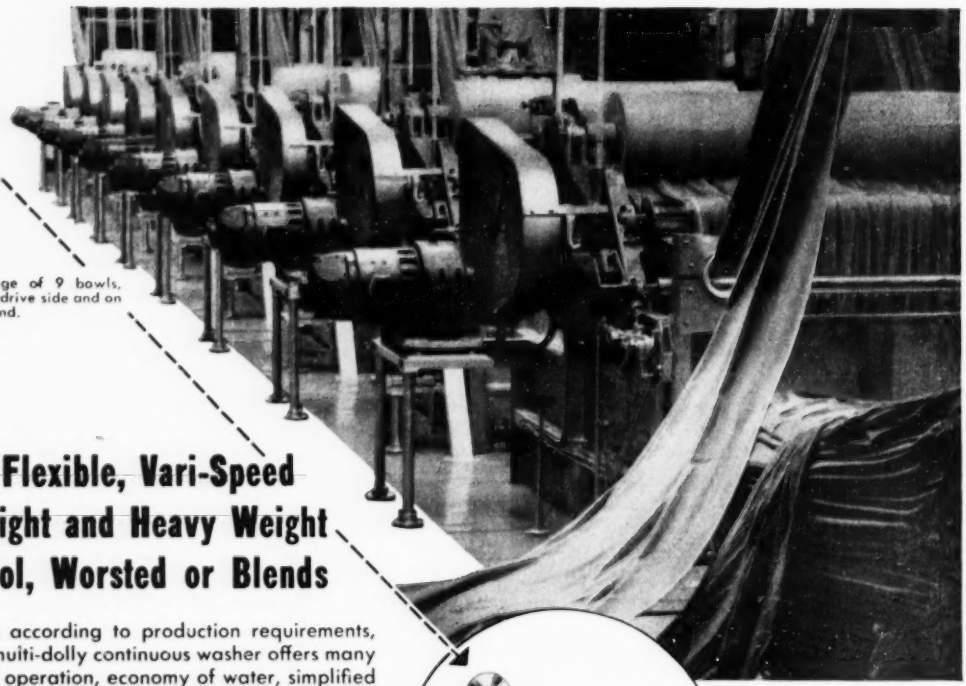
The Fleet Line's

# NEW LAXLOOP CONTINUOUS WASHER

PAT. APPLIED FOR

## with FREE-LOOP Electri-matic Compensators



Complete range of 9 bowls, seen from the drive side and on the entering end.

## An Improved, Flexible, Vari-Speed Machine for Light and Heavy Weight Fabrics of Wool, Worsted or Blends

Made in various sizes according to production requirements, this newly developed multi-dolly continuous washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and reduced labor. Among the many improvements over existing washers are:

1 Stainless steel construction throughout.

2 AC-DC drive with rheostat speed control — no side shaft to prevent easy accessibility. Variable speed according to number of bowls and operating conditions.

3 Positive counter current flow, with constant uniform pre-determined liquor level in each tub. Made possible by R & L stainless steel Flooded Suction Low Head Pump.

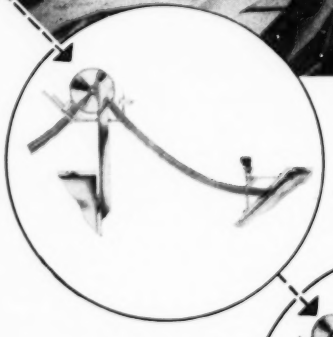
4 New shape of tub for smoother operation and fewer stops for rethreading.

5 Each unit kept in step by the new Riggs & Lombard FREE-LOOP Electri-matic Compensators. Cloth is tensionless throughout the range. Threading is faster and easier.

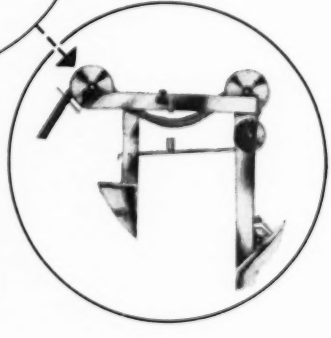
6 Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.

7 Provision can be made for flow of liquor to stop automatically when machine stops, effecting increased hot water savings.

8 Cloth fully protected against damage by electric stop motions.



**FREE-LOOP Electri-matic Compensator, Bar Type —** When two loops of cloth complete electrical circuit by making contact with two metal bars, main drive on next tub speeds up or down as required.



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range (six times the coefficient of variation) was over 28%. I don't know how great this variation would have been had we weighed short lengths of yarn, say 10 inches. Incidentally, the extreme variation range of the skein breaks was well over 50%.

We have made weighings from entire bobbins of both yarn and roving, with similar disappointing results. Tests on the sliver were no better.

We are aware that the condition of the various machines, drafts, speeds and settings play an important role in controlling variation. Some of our variation troubles come from poor lap laying and improper piecing-up on the cards, drawing frames, and roving frames. Some training of operatives has been undertaken in this direction, and we are planning to extend this training.

What about some tips from some of your card room experts? I would certainly like to see more discussion on this very timely subject.

CONTRIBUTOR No. 8519

# Training Program Helps Learners Pay Their Way

EDITOR TEXTILE INDUSTRIES:

Many mills do not hire learners and are interested only in securing trained personnel. If all operatives were trained alike this might be a satisfactory procedure, but unfortunately they are not. Each mill has different ways of doing the same thing. Although the ultimate goal is the same, the procedures and practices in different mills are not usually compatible.

Many mills lose money by hiring trained operators because they often have to retrain experienced operators. Although the loss is not direct in retraining operators as it is in training inexperienced operators, the loss does show up in low efficiency, loss of production, and bad work until the employee is able to run a job the way management wants him to. Then too, if an operator is hired as skilled, it does not mean that he can meet production requirements for the job.

In many instances there are operators who have worked for years on the same job and never make an average operator because they may lack one important attribute among many required to make an excellent frame operator, spinner, or doffer. Experienced operators not only know the good points about running a job but in many instances they have learned undesirable short cuts on the job. Unless such operators are watched closely they may deviate from the established procedure.

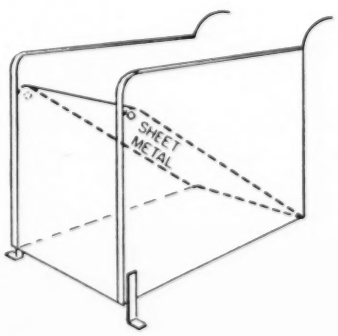
The beauty of training your own operators is that they can be trained to perform an operation the exact way you want them to do it, and they do not know of any other way to do it. A specific program for learners for each type of job should be laid out in advance. An instructor can be assigned to each group of learners, or they can be put to work with an experienced operator. Care should be taken in selecting instructors to see that they do not take advantage of the learner and make him do the instructor's work while the instructor takes it easy.

A specific program should be outlined covering a certain period of time during which the learner

# Modified Feed Hopper Requires Few Parts

EDITOR TEXTILE INDUSTRIES:

In our opening room we dispensed with the bottom apron in the cotton hopper and installed a piece of sheet metal from the bottom of the spiked apron to the top of the back of the hopper as shown in the accompanying sketch.




The piece of sheet metal is the same width as the hopper and is placed close enough to the spiked apron to prevent cotton from dropping out of the bottom.

The sheet metal is installed at an angle steep enough for the cotton to slide down to the spiked apron. By eliminating the bottom apron in the hopper we have saved considerable time and money which would otherwise have been spent for replacement of the bottom apron as well as labor for maintenance and repairs.

The cotton is fed by hand into the hopper in the usual way. Of course, the hopper holds less cotton at one time than it did formerly, but this feature has not been undesirable from our viewpoint.

CONTRIBUTOR No.8559

# STRAIGHT WARPS

## WEAVE BETTER

USE

## BARBER-COLMAN

## WARP DRAWING MACHINES

On this machine the warp is drawn through reed, harness, and drop wires accurately, rapidly, and almost automatically. The mechanical motions are carefully synchronized to eliminate errors. The details of the pattern are accurately controlled by a punched metal sheet. After loading, all the operator does is watch to see that things go smoothly, and make minor adjustments of the carriage position.

In talking with the superintendent of a large South Carolina mill about his recently-installed Barber-Colman Warp Drawing Machine, an interesting story developed. It seems they did not have more than enough work for one shift, but wanted two crews trained in case of a lot of style changes. In order to find training work, they started bringing in warps in which crosses had accumulated or drop wires had been stepped over the yarn. They found that these redrawn and straightened warps *improved the weaving* so much that they are running the machine two shifts regularly in order to redraw *all* warps periodically.

A recent study of mills owning Barber-Colman Warp Drawing Machines shows that 25% of these mills have more than one machine, and that 48% of the machines sold have gone to mills that already had at least one. These brief statistics indicate merely that many of those who have the machines like them well enough to reorder.

*Note, for the future: The 1954 American Textile Machinery Exhibition will be at Atlantic City, April 26 through 30, 1954.*

**AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES**

**BARBER-COLMAN COMPANY**

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becomes familiar with the operation of the machine and learns the functions of the job. At the end of this time the learner should be put on a small job and watched closely. As his skill improves, more should be added to his work load until at a predetermined time he should be able to take on a full work load. After a reasonable length of time, if he is unable to carry a full work load, he should be discharged or assigned to a job on which he can carry a full work load.

In mills where doffer help is employed on fly frames, an excellent opportunity is available for training fly frame operators. The doffers can work around the frames and learn from the experienced employee the operation of the frame. The secondhand could explain the operation of the frame to the learner when questions arise. In mills where there are no frame doffers to help the frame operators, jobs such as sweeping, pushing roving, or bobbin machine operator could be set up to allow these operators to spend part of their time working around the frames.

It is a good policy to keep at least two or three young prospective learners on minor jobs instead of filling the job with the older unskilled operatives. As the need arises, learners may be assigned to jobs requiring more skill, and it is up to them to make good. Learners usually take advantage of the opportunity to work around frames and learn how to operate them, provided the learner knows he, instead of some outsider, will be given an opportunity to advance when an opening occurs. This procedure not only boosts morale in the whole plant but also encourages new operators to take pride in their work. That is why it is sometimes much easier to foster friendly competition for improving work quality among operators trained in the mill. Operators trained in this way have a greater sense of belonging to the group and take much more pride in their work.

Learners should be hired with the understanding that they have a job only so long as they apply themselves and make the grade. If the learner does not show promise or can not fill a regular job after a reasonable length of training, management should have the right to discharge him and put someone in his place who is interested in making the grade. Local residents may be recruited in this way, instead of having to seek employees over a wide area and from other plants. High school graduates from the local schools should be encouraged to come to work in the plant where their parents work. If morale is maintained at a high level, parents usually encourage their children to come to work in the local plant instead of seeking work in other communities.

Although it costs more to train an employee from scratch than it does to retrain an employee someone else has already trained, in the long run it pays dividends because the operator is usually more conscientious and satisfied.

CONTRIBUTOR No. 8492

# Auxiliary Work Tables Improve Looper Efficiency

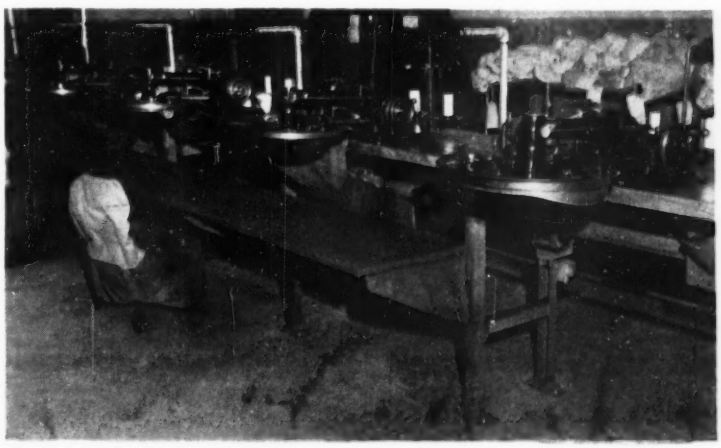
*This item was submitted in a kink contest.*

EDITOR TEXTILE INDUSTRIES:

We tried several methods of holding stockings to be looped in our looping departments to prevent picks, improve the operators' efficiency. Also, we attempted to keep lint and oily goods from coming in contact with the operators' clothes. In handling 15 denier nylon hosiery, we found a large number of picks were made by the operators in laying the seamless hosiery to be looped across their laps. In the sock department it was burdensome to hold socks in their laps.

After considerable research, a practical and inexpensive method of holding the hosiery was devised.

A triangular bracket was made of 1½″ x 3/16″ band iron and bolted to the looping table legs as shown in the photograph. The width of the bracket at the leg to the outer end is 17 inches, and the top of the bracket is 24 inches above the floor level. Three boards ⅞″ x 5¾″ x 126″ were fastened together by using three pieces of ¼″ plywood as battens. This length of 126″, or 10 feet 6 inches, is exactly the length of three sections of looping table. Several sec-



tions of board are fastened end to end, thus forming a continuous auxiliary work table extending from one end of the looping table to the other end. Beaver-suede cloth was sewed together to form an envelope to cover the boards, and the only tacks used are on the ends. The brackets are also covered with the same kind of cloth.

In practical use the table has greatly reduced the number of picks in our seamless hosiery, the operators are delighted that their clothes no longer come in contact with the goods, and they can arise from their chairs without disturbing their work.

CONTRIBUTOR No. 8557

## Improvised Truck for Glass Warps and Double Beams

*This item was submitted in a kink contest.*

EDITOR TEXTILE INDUSTRIES:

The truck shown in accompanying illustrations is especially handy for single ply glass warps where there should be no movement of ends in harness while the warp is moved. The truck serves equally well for double beams.

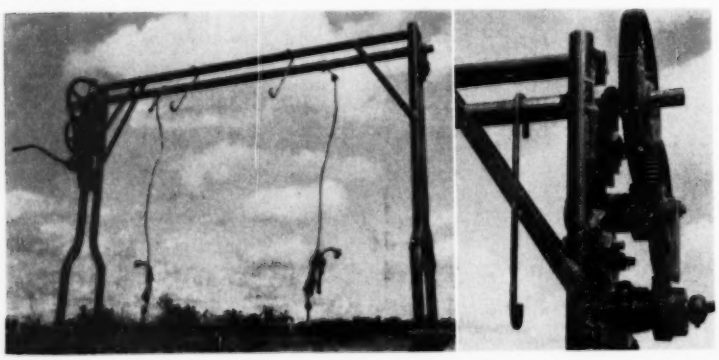
To remove double beams from web drawers' frames, the truck is placed back of frame. The bottom beam is removed first by hooking cable hooks over beam arbors. Warp is wound up out of frame, cable spiraling around shaft, and warp is then lowered to rest on bottom arch of truck. Top beam is then handled same way only it is left hanging on cables a few inches above bottom beam. Hooks are then placed over top pipe (as shown in left photo) and rest on shaft. Harnesses are placed on these hooks, and the warp is turned to take up slack.

At the loom, harness is put in first by turning beams on bottom and in hooks. Hooks are taken from harness position and placed over shaft as shown in right photo. To put the bottom beam in first, wind top beam up high enough to put arbors in hooks. This leaves cables free. Cables are then hooked over bottom beam which is raised to loom level and swung into loom. Cables then are free again. Cables are wound up, and top beam is removed from steel hooks. Beam is lowered to beam stands and swung into loom. Cables are then wound down and hooked over bottom arch so they won't swing and damage warps as truck is wheeled to its place. A man and a boy can handle double beams with this truck very easily. Truck will handle both wide and narrow beams and up to 20 harnesses.

CONTRIBUTOR No. 8561

**Materials**
Main shaft from wide loom
106-tooth gear for main shaft from old leno motion
80-tooth intermediate gear from modified D Draper loom
30-tooth gear to fit in intermediate
32-tooth gear from box motion from 2 x 1 C&K loom
3 crank shaft or main shaft bearings
2 pieces of steel plate 7½" x 17½" x ⅜"
35 feet of 1¾" pipe
12 feet of 1" x ¼" flat steel stock
20 feet of ½" cable
10 feet of ½" round stock
4 swivel wheels
1 back arch from C&K loom for bottom of truck

**Method of Construction**
Pipe was bent as shown and welded to steel plates. Then the old back arch was bolted to steel plates. The three bearings were then welded to upright pipe. 5" of main shaft was turned down to fit large gear. Holes were also drilled in shaft for ½" cable. Corner braces were welded on, hooks were put on end of cables for holding beam, and hooks provided for holding harness. Crank was made for small gear and also a swinging catch to lock gears when winding up or lowering warps.



## For Above-Normal Twist in Roving—

EDITOR TEXTILE INDUSTRIES:

Occasionally it is necessary to make roving with more twist than usual. When the need arises, there are two ways to insert more twist in the roving without tearing down the head-end gears on the frame:

(1) Increase the number of teeth in the top cone gear. If the gear is already as large as can be run without rubbing the roller beam, the roller beam may be cut out enough to carry a gear with about 10 more teeth. A gap slightly wider than the gear may be cut out of the roller beam by using an electric drill. The gap should be finished with a file and the gear placed on the top cone shaft. This will not weaken the roller beam enough to cause trouble because the roller beam is notched next to a Samson. The twist constant on a frame may be increased approximately 50% by following the foregoing method.

(2) If you are unable to install a smaller twist gear on the shaft, and the top cone gear is as large as can be run, it is possible to take the jack shaft out, cut teeth in it, and let it function as the twist gear, provided the frame does not have to be changed often.

If both of the foregoing suggestions are followed, it is possible to double the amount of twist that can be put into the roving.

CONTRIBUTOR No. 8489

# Frame Converts Odd Lots of Roving

*This item was submitted in a kink contest.*

EDITOR TEXTILE INDUSTRIES:

It is often desirable in medium and fine-count spinning mills to use, in a profitable way, odd lots of roving which cannot be spun further because of insufficient spinning capacity or change of orders for a specific type of yarn.

Oftentimes, this roving either clutters storage space or is stripped from bobbins and used or sold as waste. In many instances, the roving may be sold as coarse filling, or as a base for fancy yarns, provided it is strengthened by inserting a little more twist. It may be worthwhile to double and twist the roving in the usual way to fulfill new yarn specifications.

The difficulty of unwinding the weak roving from the bobbins at a reasonable speed and without excessive breakage or stretch is always a problem. One method to overcome this difficulty is expedient and helpful, provided an idle roving frame is available for insertion of the extra twist. No alterations are necessary on the frame, except to change the twist, lay, and tension gears.

The procedure is as follows:

(1) Place the roving bobbins on skewers in the creel.

(2) Remove all the top rolls, including the front top roll, so that the twist can run from A to B and $A^1$ to $B^1$ (as shown in sketch).

(3) Unroll two yards of roving from the bobbin and twist this piece up by rolling it between the palms.

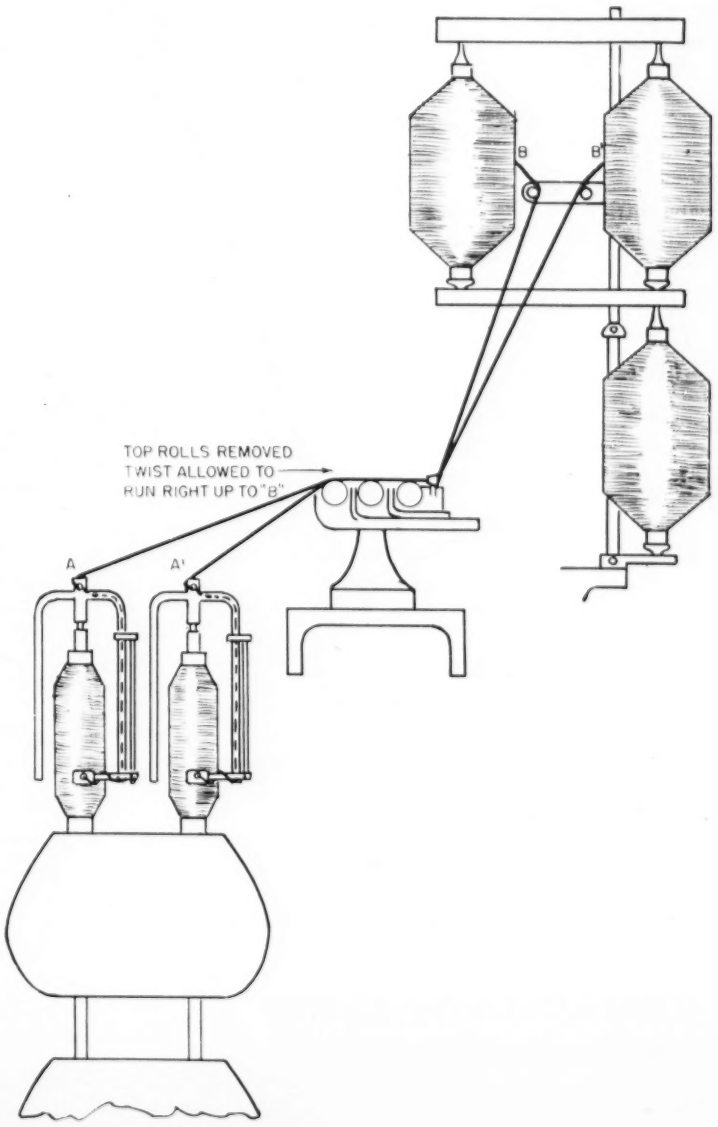
(4) Thread the roving in the usual way over the guide rods, through the trumpet, over the bottom rolls, into the flyer, and onto the bare bobbin.

(5) Leave a short length of slack roving next to the supply bobbin.

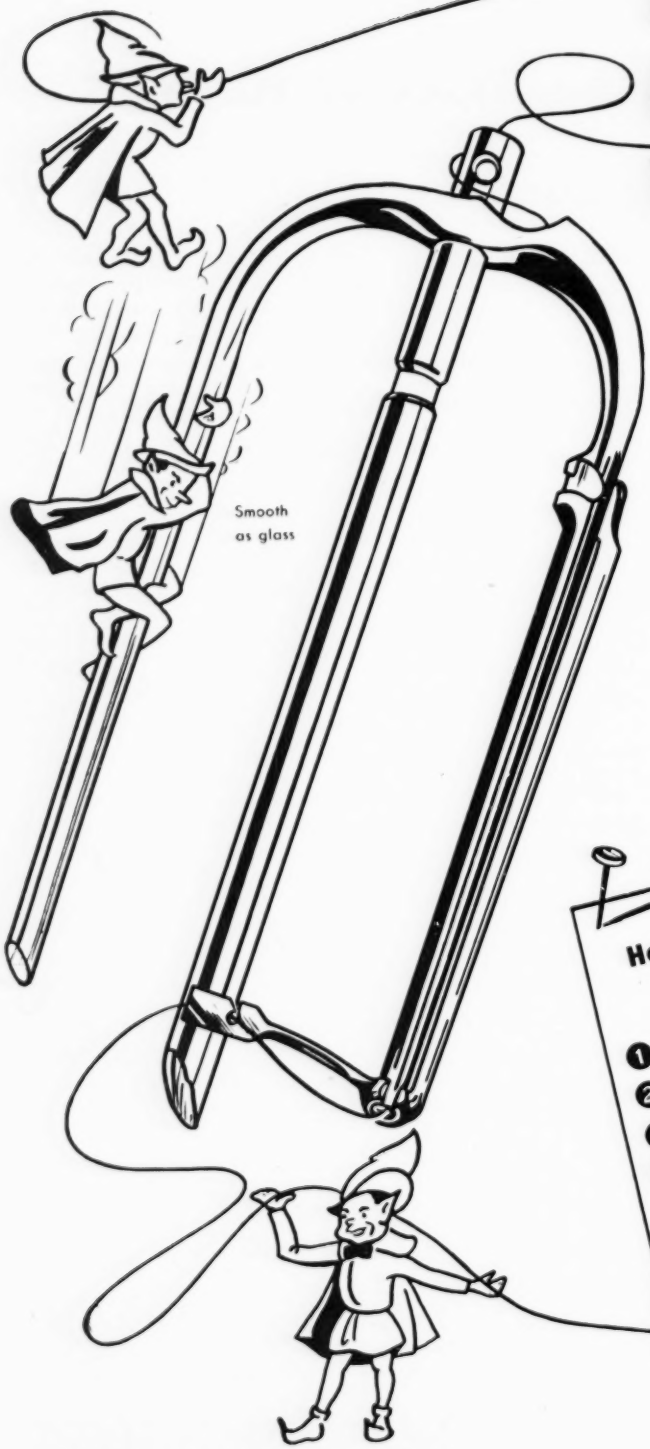
(6) Start the frame.

In view of the fact that the twist is carried all the way to the bobbin, the length of yarn between the supply bobbin and the flyer will be strong enough to unwind the supply bobbin at a reasonable speed, without breaks. The lay and tension gears should have one to three teeth less than when processing equivalent hank for spinning.

The necessity of making any changes to the twist gear may be questioned in view of the fact that the top rolls are removed. It is worthwhile to remember that the twist gear affects the speed of the top cone and subsequently the winding speed of the frame. The



# Ideal Goldflyers* Won't Choke Up




Your troubles from choked hollow legs are over when you use Ideal Goldflyers. Fibres can't hang up on their beautiful smooth-as-glass finish. Flyer legs can't choke up to cause slubs or roving doublings. Ideal's Goldflyer finish is baked on and is guaranteed never to flake off or wear to a rough surface.

Ideal's Goldflyer finish is an addition to Ideal's matchless repair service. Specify it on your next repair (or reconditioning) order and you will get super-smooth running work and better quality roving.

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winding speed controls the number of turns per inch in the yarn.

The twist gear should be chosen according to the need and gear stocks available, but a twist gear that would, under normal conditions, give an extra 1.5 twist factor (3.0 turns per inch on 4-hank roving) was tried and produced a yarn that was easily manageable for further twisting or for filling. The roving used in this instance was reasonably even. Of course, if a twist gear is available which will permit the insertion of more twist, a stronger yarn would be produced. Some experiments should be made before a gear is finally decided upon.

If an end should break above the flyer, which is most probable, the supply bobbin would stop delivery; therefore, it would not be necessary to give this frame the same attention as that required in processing regular roving.

Piecing up can be done by twisting in the yarn ends as long as piecings are left loose in front of the supply bobbin, and the ends are made thin so that the twist can run into the piecing before the shock of the first tug against the bobbin. If a satisfactory twist gear is used, it is doubtful that any breaks would occur at all.

CONTRIBUTOR No. 8503

# Table Expedites Production Control for Card Room Overseer

EDITOR TEXTILE INDUSTRIES:

As a card room overseer it is part of my duty to adjust the preparation to balance the production of the spinning rooms. Since we produce a large quantity of different qualities of both cotton and staple fiber yarns, this is not an easy matter. It was formerly no uncommon experience to suddenly realize that my department was overproducing on one quality and not producing enough of another quality.

This generally meant changing roving frames in a hurry and making several trips or telephone conversations to the spinning room in order to keep in touch with the situation. The condition of unbalance applied particularly to roving bobbins which leave the department as soon as produced and are not noticed in my tours of inspection of my own department.

It is common practice to calculate the production of roving frames for operator wage purposes by expressing it as so many hanks per spindle per week, and this aspect of the situation naturally received a large part of my attention. The spinning room overseer, however, and the production control department ask for so many pounds of roving per week. This request is given periodically for pounds per week for each quality.

The quality control personnel are making their routine tests and keeping me informed as to roll speeds and machine efficiencies. It occurred to me, therefore, that if intelligent use were made of this information it would be possible to cut out calculations usually necessary in converting hanks produced into pounds produced. At the same time, some machine changes could be eliminated.

All that seemed to be necessary was a table showing the pounds produced per hour for the different hanks and for the different roll speeds. Since we produce eight different hanks, and the roll speeds vary from 80 to 140, the making of this table was delayed because of the amount of work entailed. Then we got the idea of making the table as shown in the accompanying box, from which we can ascertain in a simple manner the pounds produced per hour for any roll speed imaginable.

Suppose it were necessary to determine the pounds produced per frame per hour when making 3 hank roving at 122 rpm front roll speed. The line of figures opposite 3 hank in the table indicates 0.388 in the first column. This figure is the pounds produced per frame hour when the roll makes one rpm. For 100 rpm the production is therefore 38.8 lb. Under column 2 the number 0.777 appears, and this is the pounds produced at 2 rpm. This figure may be multiplied by 10 to obtain the production for 20 rpm. The production for 122 rpm is therefore:

| | | | |
|---|---|---|---|
| 38.8 | lb | @ | 100 rpm |
| 7.77 | lb | @ | 20 rpm |
| 0.777 | lb | @ | 2 rpm |
| 47.347 | lb production @ 122 rpm | | |

Of course the resultant figure is based on 100% production efficiency; therefore it is necessary to correct the figure in accordance with actual efficiency.

Suppose we received an order to produce 20,000 pounds of 2 hank roving per week. We work 80 hours per week; consequently we need to deliver $\frac{20{,}000}{80}$ pounds per hour, or 250 pounds.

If the front roll speed is 125 rpm and machine efficiency is 85%, the schedule would be as

**Pounds Produced per Frame per Hour per Front Roll Speed**

| hank | 1 rpm | 2 rpm | 3 rpm | 4 rpm | 5 rpm | 6 rpm | 7 rpm | 8 rpm | 9 rpm |
|---|---|---|---|---|---|---|---|---|---|
| ½ | 2.331 | 4.662 | 6.993 | 9.324 | 11.656 | 13.987 | 16.318 | 18.649 | 20.980 |
| ¾ | 1.554 | 3.108 | 4.662 | 6.216 | 7.770 | 9.324 | 10.878 | 12.432 | 13.986 |
| 1 | 1.165 | 2.331 | 3.496 | 4.662 | 5.828 | 6.993 | 8.159 | 9.324 | 10.480 |
| 2 | 0.582 | 1.165 | 1.748 | 2.331 | 2.914 | 3.496 | 4.079 | 4.662 | 5.245 |
| 3 | 0.388 | 0.777 | 1.165 | 1.554 | 1.942 | 2.496 | 2.719 | 3.108 | 3.496 |
| 4 | 0.291 | 0.582 | 0.874 | 1.165 | 1.457 | 1.748 | 2.029 | 2.331 | 2.622 |
| 5 | 0.233 | 0.466 | 0.699 | 0.932 | 1.165 | 1.398 | 1.631 | 1.864 | 2.097 |
| 6 | 0.194 | 0.388 | 0.582 | 0.776 | 0.971 | 1.165 | 1.359 | 1.553 | 1.747 |

follows: for 2 hank roving from the table we get

58.20 lb @ 100 rpm
11.165 lb @ 20 rpm
2.914 lb @ 5 rpm

72.279 lb @ 125 rpm and 100% efficiency

Correcting this figure for 85% efficiency we get:

$$\frac{72.3 \times 85}{100} = 61.5 \text{ approximately}$$

The frames needed therefore are

$$\frac{250}{61.5} = 4$$

By using the tables we have saved much time, and now it is no longer necessary to calculate and correct daily the hanks produced, then waiting a few days to see if we are about to meet the schedule. We put the frames on at once with the utmost confidence that we are right. We have also minimized last minute changes.

The table requires few calculations. To compile the table, only one calculation is needed for each line of figures. For example, the pounds produced for one revolution of the front roll is calculated for the ½ hank roving as shown.

$$\frac{\text{(spindles per machine) } 136}{36 \text{ (inches)}} \times \frac{\text{(dia front roll (in.)) } 1\frac{5}{8}}{840 \text{ (yards)}} \times \frac{\text{(minutes per hour) } 3.1416 \times 60}{\frac{1}{2} \text{ (hank)}}$$

This gives us 2.3312, and twice this figure is put in column two, three times the figure in column three, etc. When one line has been written, the others are all in proportion.

CONTRIBUTOR No. 8532

# Color Shading and Grading Discussed

EDITOR TEXTILE INDUSTRIES:

I read with interest your article on "Color Shading and Grading" in the August 1952 issue of TEXTILE INDUSTRIES. We should like to secure the following information: width, height, and length of a color shading room; average illumination per foot; and the correct proportions to mix daylight fluorescent lamps with blue and incandescent lamps. We have not been able to find Examolite fluorescent lamps in Italy.

CONTRIBUTOR No. 8567
*(Italy)*

EDITOR TEXTILE INDUSTRIES:

In answer to the question posed by CONTRIBUTOR No. 8567, the size of a color shading room is dependent entirely upon the amount of material that flows through it. In the article on color shading and grading, the lamp used totalled 20 feet long. The room was longer than this, of course (roughly 30 feet long). There were two banks of these 20-ft lamps, so that the shaders could work back-to-back.

The lamps were not Examolite lamps; they were the color matching Skylights which are standard for color matching and shading in the textile industry and in other industries in this country and in many countries abroad. The color matching Skylights produce their daylight quality of illumination through the use of incandescent bulbs and special daylight filters.

The intensity of illumination is entirely dependent upon the type or color of the material being examined. If the colors are extremely light, the intensity of illumination may be in the range of 50 foot candles. If the intensities are dark, illumination must be in range of 150 foot candles. The color temperature of this illumination should be 7500° Kelvin.

The Macbeth Color Matching Super Skylight, Model BX848, is for dyehouse use. The BX1014 is for use in the shading room. Multiples of these units may be employed. The Examolite does not produce as accurate a reproduction of daylight as the filtered skylight. It is, therefore, recommended for secondary color duty such as inspection and perching. This inspection, however, must not be done with Examolites unless the basic color matching has been done primarily with some form of filtered incandescent light such as that produced in the Skylight.

CONTRIBUTOR No. 8568

# Springholder for Sliver Lapper

EDITOR TEXTILE INDUSTRIES:

I was working on the first shift in the carding department when I noticed the overseer and the section man looking for something on the floor. I asked them what they were looking for, and I was told "those springs just won't stay in place on the sliver lap machines."

The springs in question held the bottom clearer against the bottom roll of the sliver lap machine. There are 24 ends to the lap machine table, consequently there were 24 of those little springs jumping out from time to time.

I suggested to the overseer that we have two pieces of shaft cut to suitable length to fit behind twelve clearers on each side of the table and also to hold the clearers against the bottom rolls with equal and correct force. The suggestion was adopted and has been used with satisfactory results ever since. CONTRIBUTOR No. 8553

# SUPPLIERS News

WHAT THEY ARE DOING

A six-hundred-acre tract north of Hopewell, Va., has been acquired by the National Aniline division of **Allied Chemical and Dye Corp.**, for construction of a plant for manufacture of staple fiber and continuous filament nylon.

The **American Cyanamid Co.** has appointed Dr. R. C. Conn departmental technical director in charge of textile resins process development; also chairman of the technical committee of textile resins, for its Calco Chemical division.

**Schibley Solvents & Chemicals Co.** has been appointed sales agents in the state of Ohio for **American Resinous Chemicals Corp.** and **American Polymer Corp.**

Joe A. Okey has been appointed southern sales representative for **Crown Chemical Corp.** and will handle the territory of North Carolina

**Mr. Okey**

and parts of South Carolina and Virginia. Mr. Okey founded and presently operates Graham (N. C.) Chemical Co., and has served as president of Burlington Engineering Co.

J. Reid Durbin is head of the rayon staple and tow sales division of **American Viscose Corp.'s** Charlotte, N. C., office.

The firm of **Beacon Management Counselors,** with offices in Boston and Winthrop, Maine, has been formed by Roger M. Allen and Loring W. Carney to practice industrial management consulting work. Both men were previously with Barnes Textile Associates, Inc. O. Thomas Austin, formerly with A. D. Juilliard & Co., Inc., will be with the Maine division of the group, and A. Frederick Allen, until recently with M. T. Stevens & Sons Co., will be associated with the firm in the Boston division.

**Beckman Instruments, Inc.,** has under construction a two million dollar, 200,000 sq ft instrument factory and administration offices in the La Habra-Fullerton area of California.

**Behr-Manning Corp.,** a division of Norton Co. of Worcester, Mass., has opened a branch office and warehouse at 710 Lee St., S.W., Atlanta, Ga. Vernon C. Landgrebe is branch manager. Richard A. Elliott, divi-


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*Model 213P Scrubber-Vac* at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! (Powder dispenser is optional.) *Finnell* makes *Scrubber-Vac Machines* in a full range of sizes—for small, vast, and intermediate operations—and in *self-powered* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac*, and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1304 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

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sional sales manager, is assisted by L. R. Clarke and Jack Capet. The company will stock fillet cloth for grinding cards, also slasher tapes, floor sanding paper, and coated abrasives for mills.

**Courtaulds (Ala.) Inc.** has announced the opening of its new rayon plant at LeMoyne, Mobile County, Ala. The new plant will have a capacity of more than 50,000,000 pounds annually of viscose rayon staple fiber, which will be sold to the domestic industry by Courtaulds, Inc., whose New York office is at 600 Fifth Ave.

**Furnas Electric Co.,** Batavia, Ill., announces the appointment of Walter A. Meyer as general sales manager, in charge of sales and publicity. Mr. Meyer was for a number of years with Allis-Chalmers Manufacturing

**Mr. Meyer**

Co., having held the posts of manager of general purpose equipment, dealer sales, and assistant manager of the Texrope drive department. The Furnas Electric Co. manufactures pressure switches, magnetic and drum controls.

Richard Boyden has joined the research staff at the Hingham Laboratories of **Bryant Chemical Corp.,** North Quincy, Mass.

Earl H. Bradley has succeeded Henry S. Chafee as president of **Builders Iron Foundry.** Mr. Chafee remains as treasurer of the firm.

Frederic W. Howe, Jr., was recently elected president of **Crompton & Knowles Loom Works** to succeed the late John F. Tinsley. Mr. Howe, the son of the late Frederic W. Howe who was associated with C & K for 32 years, has occupied the position of vice-president and general sales manager for the past five years. He has been with the company since 1927.

John D. Farr, formerly with the B. F. Goodrich Co., has joined the development and service department of **Emery Industries, Inc.** He will be concerned with development and technical service activities pertaining to Emery's Plastolein Plasticizers.

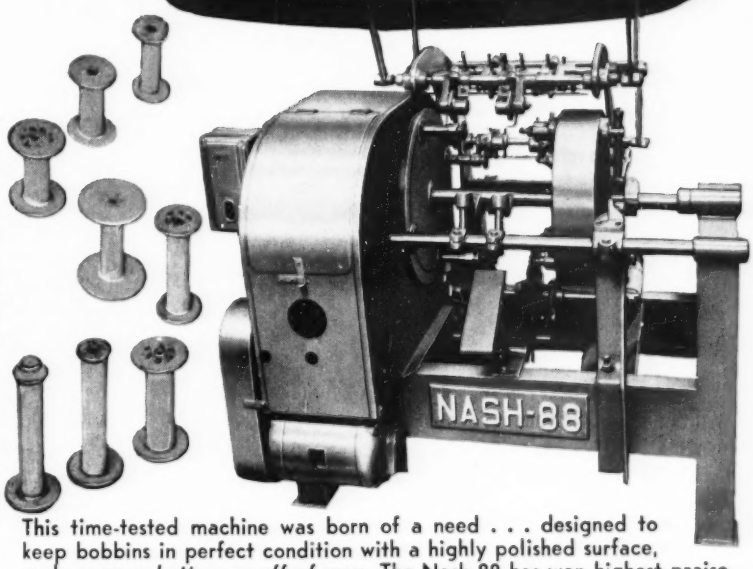
Previously in the Birmingham, Ala., territory, James L. Ragland has been appointed manager of the new Rome, Ga., branch of the **Fairbanks Co.** He will supervise the entire southern sales organization.

The recently completed extension to **The Foxboro Co., Ltd.'s** plant in Montreal has more than doubled the firm's manufacturing facilities in Canada. The extension provides 23,000 sq ft of additional space for the production of Foxboro instruments.

O. R. Gibbons has been appointed to the newly created position of sales promotion manager for the folding

## SUPPLIERS News — WHAT THEY ARE DOING


Keep your BOBBINS in TOP CONDITION at LOWER COST with the No. 88 NASH Automatic BOBBIN REFINISHER




This time-tested machine was born of a need . . . designed to keep bobbins in perfect condition with a highly polished surface, and assure a *better run-off of yarn.* The Nash 88 has won highest praise from users everywhere. It assures uniform, smooth-surface reconditioning with a saving of labor cost.

**HERE ARE SOME OF ITS FEATURES:**

- Handles most types of flanged bobbins . . . easily adjusted to range of shapes and sizes.
- Separate burnishing assembly produces a highly-polished surface of uniform quality.
- Abrasive action takes place on barrel portion inside flanges and top radius of flanges.
- Its high speed (10 bobbins per minute) requires only minimum set-up time.
- Nash quality means fine performance and low maintenance cost.

**Nash also builds Automatic Bobbin Sanders, Automatic Quill Polishers, Automatic Round Stock Sanders, and Special-Purpose Machinery.**

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Tomorrow's customer . . . your customer, may still remember the ironing board. But chances are, she'll have little use for one.

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cartons division of **Robert Gair Co., Inc.**

Frank Birchfield recently joined the sales force of **Southern States Equipment Corp.**, Hampton, Ga., and

**Mr. Birchfield**

will call on customers in sections of Georgia and Alabama.

The first unit of the completely modernized **Hartford Rayon Corp.** plant in Rocky Hill, Conn., with a capacity of ten million pounds of staple rayon annually for textile use, is now in operation. The second unit, producing eight million pounds of rayon staple for carpets, is expected to be in operation next month. The firm is a wholly-owned subsidiary of Bigelow-Sanford Carpet Co.

William J. McGeough, vice-chairman of the board of directors and former president, has retired from

**Mr. McGeough**

**U S Bobbin & Shuttle Co.** after more than fifty years' association with the firm.

Myron T. Smith, until recently sales engineering manager, has been named sales manager of **General Radio Co.** S. W. DeBlois has been appointed export manager.

The Hatch Textile Research has been incorporated and is now known as **Hatch Textile Research, Inc.** Herbert H. Hatch is president, John W. Sheppard, vice-president, and Eleanor F. Hatch, secretary-treasurer. Adolph Marklin is senior technologist.

William H. Maxson, sales manager of the textile division of **Hayes Industries, Inc.**, has announced the receipt of an order amounting to over a half million dollars, for 2,700 heavy duty 32" dia. aluminum section beams.

The **John Hewson Co.** has appointed A. G. Moore representative for sales, field application, and servicing in the New Jersey marketing area.

**Alfred Hofmann Needle Works, Inc.**, has established a stock of Groz-Beckert latch needles at 419 - 8th Street, Hickory, N. C., for the convenience of southern manufacturers. George C. Graves, Jr., Southern Pines, N. C., is representative in that area.

## SUPPLIERS News
WHAT THEY ARE DOING

John F. Maisch, formerly con-


NON-FLUID OIL
TRADE MARK REGISTERED

Tops
For Twister Ring Lubrication

Yes, NON-FLUID OIL is tops for Twister Lubrication, in fact more mills use genuine NON-FLUID OIL for this and every other phase of the textile lubrication than any other product.

However applied—by centralized system, finger, brush, or oil can—NON-FLUID OIL lubricates constantly and dependably, insuring longest life for rings and travelers. It stays on rings and off rails, giving cleaner yarn and fewer broken ends—which means increased production of perfect twist.

NON-FLUID OIL is particularly suitable for centralized method of application to rings, because it does not disintegrate under pressure —so that rings and travelers are supplied throughout the entire doff with a film of highest quality, cleanly lubricant.

Send for your sample of NON-FLUID OIL today together with Bulletin T-16-TI and see for yourself why it is "tops in textiles".

NEW YORK & NEW JERSEY LUBRICANT COMPANY
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WORKS NEWARK, N. J.

Southern District Manager: Lewis W. Thomason, Jr.
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*NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture.*

# when the service is as important as the product

Service is an important value in modern enterprise. Just for example: How could television have become such a major factor in our economy — if every set owner had to do his own tinkering, instead of calling the service man?

As for card clothing, quality is indispensable. But quality alone isn't enough — unless the product is available quickly and conveniently, unless you're sure to get the best type of card clothing for your purpose, unless efficient installation service is near at hand, and you can be sure of technical assistance when you need it.

Ashworth Service is as good as Ashworth Card Clothing — and that's the best. Our 3 factories, 6 repair shops and 7 distributing points — all strategically located in major textile areas — assure adequate supply, prompt deliveries, convenient repair service.

Our practical card men are always on call — ready to give you technical service, survey your cards and recommend necessary repairs. Write to our nearest plant for full details for Ashworth Service.

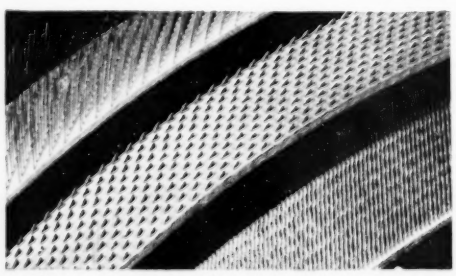
**ASHWORTH BROS., INC.**

*American Card Clothing Co. (Woolen Division)*

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
Factory* Repair Shop† Distributing Point‡

*Ashworth* **CARD CLOTHING**

**3** FACTORIES **6** REPAIR SHOPS **7** DISTRIBUTING POINTS



troller, has been elected treasurer of **E. F. Houghton & Co.**

Langdon M. Phillips has been appointed assistant sales manager for the **Rodney Hunt Machine Co.** He was formerly field sales manager.

Robert E. Staples, formerly with Hoosac mills, has joined the sales staff of **Stein, Hall & Co., Inc.,** and will work out of the firm's Charlotte, N. C. office. His territory is Tennessee and western North Carolina. William B. Amos, now sales representative of the Atlanta office, has been assigned to Alabama and Georgia. Mr. Amos was previously with the Eagle & Phoenix division of Reeves Brothers.

Mr. Staples

Mr. Amos

Distribution in North and South Carolina and Virginia of **Faultless Caster Corp.'s** ball bearing textile top roll will be handled by Charles L. Yeomans and Robert Brice of **Yeomans' Textile Services,** Spartanburg, S. C. In Georgia and Alabama the product will be handled by **Unity Supply Co.,** Columbus, Ga., with distribution being handled by Howard Sherlock, Donald Sherlock, and J. W. Davis.

Mr. Yeomans

Mr. Brice

**Ideal Industries, Inc.,** Bessemer City, N. C., has purchased all of the machinery and equipment of Gaston Textile Parts Co. of Dallas. It has been installed in the firm's new building to increase production of Ideal high speed ball bearing drawing rolls.

**Industrial Tape Corp.** has opened new warehouse facilities at 107 Pittsburg St., Dallas, Tex.

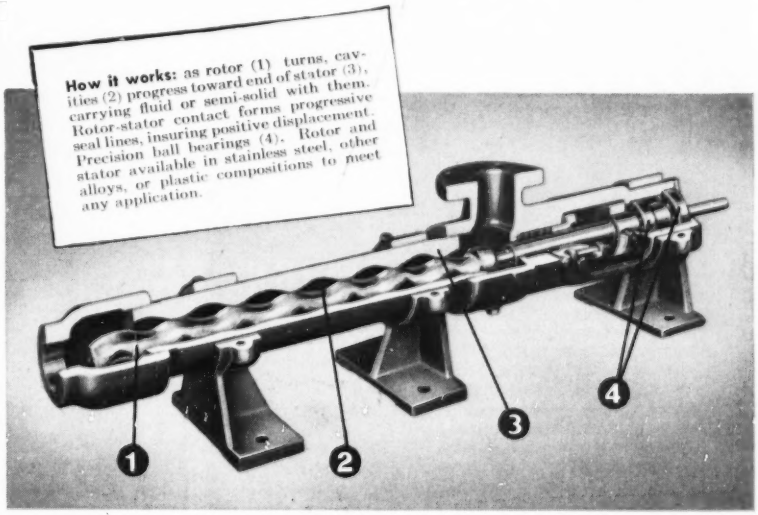
Alex S. Hanes, Jr., has left American Viscose Corp. to become vice-president of **Investment Management Corp.,** Charlotte, N. C.

Kenneth B. Beatty, Henry H. Lickel, and Charles S. Sargent, Jr., were recently elected to the board of directors of **William Iselin & Co., Inc.**

J. N. Johnson, president of **Johnson Motor Lines, Inc.,** has received a distinguished service award from the Automotive Transport Trades Council of New York, in recognition of his "strict adherence to the most advanced safety and claim prevention principles which has helped spread good will for trucking

(*Continued on page 215*)

## SUPPLIERS News
WHAT THEY ARE DOING



How it works: as rotor (1) turns, cavities (2) progress toward end of stator (3), carrying fluid or semi-solid with them. Rotor-stator contact forms progressive seal lines, insuring positive displacement. Precision ball bearings (4). Rotor and stator available in stainless steel, other alloys, or plastic compositions to meet any application.
1
2
3
4

**If your pump requirements are a little different . . .**

**The entirely different MOYNO® Pump may be exactly what you need!**

**FACTS ABOUT THE MOYNO**

**the world's simplest pump**

- **Positive Displacement**—available to pull up to 29 inches of vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. at 600 p.s.i.
- **Gentle**—no foaming; will not break up semi-solids.
- **Reversible**—pumps just as well either way.
- **Trouble-Free**—self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service, easy to maintain.
- **Versatile**—handles anything that goes through pipe.

If your materials are viscous, semi-solid, hard to move . . . if they're abrasive or tend to disintegrate . . . find out why Moynos handle jobs where other pumps fail!

The Moyno Pump represents a completely new and different concept of pump design. The cutaway above—and facts at left—show you why it's a pump you can install and *forget.*

And, chances are this versatile pump can solve your problem. Moynos pump clay for a leading pottery maker. They're being used for pumping caustics . . . white water in paper mills . . . even for pumping potato salad!

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Get more facts today! Write for Bulletin 30-PH; it will tell you more about the versatile Moyno Pump.

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Fractional & Integral Motors & Generators | Electric Fans | Electric & Hand Hoists & Cranes | Moyno Pumps | Propellair Industrial Ventilating Equipment

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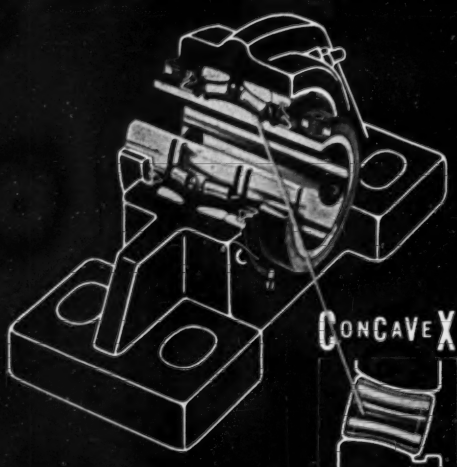

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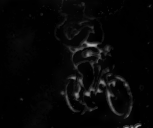

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★ Precisioned for Concentricity
Today's fast-changing fibres and methods require constant adaption of much machinery used in textile mills. This includes bobbin design. Particularly important when running fine multi-filament synthetics.

Own
★ Precisioned for YOUR Spindles
Each new fibre presents new handling problems in spinning, twisting and weaving. A special design of bobbins may solve many of these problems for you. Write us — we'll be happy to help you.

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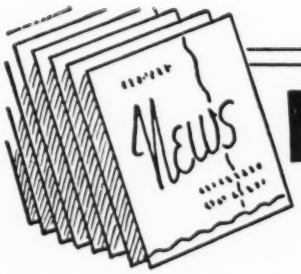


# HELPFUL Booklets FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES' advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 214 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES' advertisers.)

*This service is restricted to those engaged in operation and management of textile concerns.*

**4-1 Polar Milling Dyestuffs Color Card.** New card by Geigy Company displays dyestuffs which represent a range of Milling and Polar Colors generally applied in neutral or weak acid dyebaths. Write: The Geigy Co., 89-91 Barclay Street, New York 8, New York.

**4-2 Woolen and Worsted Mill Electrical Equipment.** Booklet by Westinghouse follows processes through the mill and shows application and advantages of Westinghouse equipment. Write for: B-4698, Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pennsylvania.

**4-3 Dodge General Power Transmission Machinery.** Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. Write: Dodge Manufacturing Corp., Mishawaka, Indiana.

**4-4 New Information On Instrument Gages.** 24-page bulletin by Taylor Instrument Companies supplies considerable information on features, dials, and scales available to textile industry with excellent reference material on different types of actuation. Write for: No. 98214, Taylor Instrument Companies, Rochester 1, New York.

**4-5 "Teflon" Prevents Surface Adhesion.** Booklet shows how Teflon finishes may be applied to dry cans, tenter frame pin plates, feed rolls, and scroll rollers, to keep anything from sticking to the surfaces of these. A good solution to the problem of unwanted adhesion. Write: General Plastics Corp., 1011 Main Avenue, Clifton, New Jersey.

**4-6 Conveyors For The Textile Industry.** Pamphlets describe Shuler Conveyors applicable to textiles. Well-illustrated, they show how overhead costs may be cut. Write: Shuler Conveyors, Inc., 1047 Northern Boulevard, Roslyn, New York.

**4-7 Sanitation and Maintenance In Textile Mills.** Well-illustrated booklet by ZEP Manufacturing Corp., is excellent reference book for day-to-day use by textile men whose responsibilities include modern maintenance and sanitation. Good addenda for mill files. Write: ZEP Manufacturing Corp., 560 Edgewood Avenue, N. E., Atlanta, Georgia.

**4-8 Tension Control In Textiles.** Booklet describes many applications and advantages of Link Engineering's "Lod-Caps". Well-illustrated with diagrams and pictures, it gives specifications and capacities. Write: Link Engineering Company, 13843 Elmira Avenue, Dept. D, Detroit 27, Michigan.

**4-9 Tubing For The Textile Industry.** Bulletin by Babcock and Wilcox shows typical steel tubing applications in the Textile Industry. Gives types, grades, sizes, surface finishes, specifications, quality, condition, shapes and fabrication. Write: Babcock & Wilcox Co., Tubular Products Division, Beaver Falls, Pennsylvania.

**4-10 Stainless Steel Tanks.** New bulletin shows range of Rodney Hunt engineered stainless steel fabrications. Shows ability to handle complex equipment needed for textiles. Write for: No. 153, Rodney Hunt Machine Co., 53 Mill Street, Orange, Massachusetts.

**4-11 Rust Prevention.** Booklet by Rust-Oleum Corporation shows how paint may be used to advantage in preventing rust and beautifying equipment. Write: Rust-Oleum Corporation, Evanston, Illinois.

**4-12 Facts About Your Flyers and Spindles.** Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. Write: Ideal Machine Shops, Bessemer City, North Carolina.

**4-13 Color Principles.** Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. Write: Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N. Y.

**4-14 High-Production Weaving Looms.** Bulletin gives types, advantages, and specifications of Astra Weaving Looms. Useful when running light and medium woolen and staple rayon fabrics of all kinds. Write: Bergedorf Eisenwerk A. G., Astra-Werke, Hamburg-Bergedorf, Germany.

**4-15 Formic Acid In Textiles.** Technical bulletin by Heyden Chemical Corp., explains use of formic acid in continuous dyeing of nylon fabrics. Comments also on raising piles of wool in fabrics that are mixtures of wool and cellulose. Write: Heyden Chemical Corp., 342 Madison Avenue, New York, New York.

**4-16 "Custom Tailored" Stainless Steel For Textile Mills.** Booklet, well-illustrated, shows products and manufacturing capacity of Sims Metal Works. Illustrates versatility and flexibility of Sims to meet all mill needs. Write: Sims Metal Works, West Point, Georgia.

**4-17 Electric Brakes and Clutches For Textile Applications.** Catalog by Warner gives advantages, applications, and specifications for Warner products. Complete engineer's drawings, explanations. Write: Warner Brake and Clutch Company, Beloit, Wisconsin.

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*for every spinning and twisting purpose*

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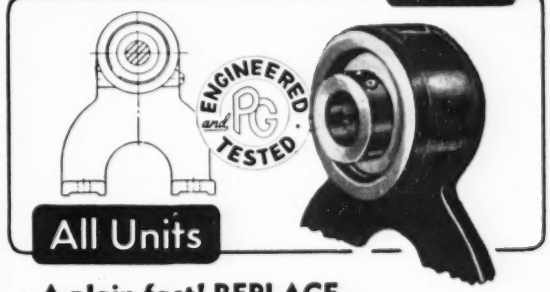


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**4. HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

**7 RAYON TELLS ITS STORY TO THE PUBLIC**—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

**17 A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK**—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

**18. FACTORING**—Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome.—L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

**19. INDUSTRIAL BUILDING**—A 32-page booklet entitled "U.S.S. 12, U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-Industrial buildings.—U. S. STEEL CO., 525 William Penn Pl. Pittsburgh 30, Pa.

**20. VISION TESTING EQUIPMENT** — Pamphlet entitled "What You Can Expect From a Good Vision Program" written by a prominent personnel director. Also circular describing the Keystone Occupational Visual Service.—KEYSTONE VIEW COMPANY, Meadville, Pa.

**22 THE WONALANCET WAY**—Is the title of a editorial booklet published five times a year and deals with current problems which appear worthwhile at the time they are written.—WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

## PLANT & PLANT MAINTENANCE . . .

**101. TEXTILE DIGEST**—18-page manual reviewing performance-proved procedures for improved handling of more than 60 essential cleaning and related operations in textile mills.—OAKITE PRODUCTS, INC., 22 Thames St., New York, N. Y.

**102. "TANK TALK"**—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

**103 HUMIDIFICATION, EVAPORATIVE COOLING**—Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

**107 FINNELL SCRUBBERS**—Illustrated leaflets describing and giving specifications for the Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

**108 MAPLE FLOORING**—Booklet describing finishing of Northern Hard Maple Flooring—list of M.F.M.A.-approved heavy-duty floor finishes. —MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacher Dr. Chicago 1, Ill.

**111 INDUSTRIAL FANS**—Catalog sheets with specifications describing the complete line of Murray Industrial fans for plant ventilation. Seven sizes described from 24" with 1/3 HP motor delivering 5700 CFM to 54" with 3/4 HP delivering 17,300 C.F.M. with advantages of heavy gauge metal construction brought out.—H. C. BIGLIN CO., 177 Harris ST., N.W., Atlanta, Ga.

**113 COTTON MILL EQUIPMENT**—This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful information" section on Power Factor Correction, Lighting, Circuit Protection, etc.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

**117 CLEANING SYSTEMS**—Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

**119. MOPPING EQUIPMENT**—Complete catalog and circulars containing information on the many sizes and styles that can be had.—S. C. LAWLOR CO., 121 N Aberdeen St., Chicago, Ill.

**121. STEAM GENERATORS**—Bulletin P-1 describes compact package type boiler for heating, power, or processing. Described as fully automatic, firing all liquid or gaseous fuels.—THE CYCLOTHERM CORP., Oswego, N. Y.

**126. "SENTRY-LITE"** bulletin illustrating and describing light unit that comes on automatically when power fails, illuminating 10,000 sq. ft. 9 hours or longer.—CLEVELAND ELECTRIC CO., 557 Marietta St. N.W., Atlanta 3, Ga.

**127. SOLENOID VALVES**—Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations.—THE JOHNSON CORP., Three Rivers, Mich.

**129. AIR CONDITIONING AND HUMIDIFICATION**—Catalog section 101 lists and briefly describes each item of the complete Bahnson line of equipment for textile mill air conditioning and humidity control.—THE BAHNSON COMPANY, Winston-Salem, N. C.

**130. LIGHTING EQUIPMENT**—Bulletin lists and describes the Crouse-Hinds line of lighting equipment which includes floodlights, searchlights, types of industrial lighting fixtures of vapor-tight, dust-tight, and explosion-proof types.—CROUSE-HINDS COMPANY, Syracuse 1, N. Y.

**131. "AIR PROCESSING"**—Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc.—J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

**132. SANDING AND FINISHING**—With Coated Abrasives, 88 page illustrated booklet on modern production methods, including information on the use of "Texalox" Cloth take-up roll covering and Fillet Cloth for sharpening cardcloth.—THE CARBORUNDUM CO., Niagara Falls, N. Y.

**133. PAINTING SPECIFICATIONS AND COLOR CHIPS**—Industrial Paint and Color Guide, CC446, gives full painting specifications for exterior and interior of industrial plants with complete color samples. —THE SHERWIN-WILLIAMS CO., Painter Maintenance Div., Cleveland, Ohio.

**135. COLOR CONDITIONING**—Booklet illustrated in color describes how DuPont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid.—E. I. DU PONT DE NEMOURS & CO. INC., Finishes Div., Wilmington 98, Delaware.

**137. PUMPS AND COMPRESSORS**—Bulletin QP-11 presents the standard types of Gardner-Denver air compressors, centrifugal pumps, steam and power reciprocating pumps in a brief and comprehensive manner to enable the prospective user to select the size and type for specific needs.—Gardner-DENVER CO., Quincy, Ill.

# *Yarn of Identical Color* from 6 Different Beams

## . . . because All 6 were Dyed in the Same Bath

You can be positive of securing identical color only when the different beams or packages of yarn are dyed under identical conditions. And identical conditions are certain only when they are dyed in the same bath!

SMITH-DRUM Combination Beam and Package Dyeing Machines are designed to handle from 2 to 6 beams or yarn carriers simultaneously in the same bath and under identical conditions. This means that each beam or yarn carrier is dyed with the same liquor ratio . . . under the same operating conditions of flow, pressure and temperature . . . with uniform distribution of additions to the dye bath.

If you are interested in absolute uniformity of dyeing results, in economy of operation, in saving of floor space . . . let us arrange to have one of our representatives discuss the possible application of this SMITH-DRUM Machine to your operations. A letter, telephone call or wire will receive our prompt attention.

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*Southern Sales Representatives:*
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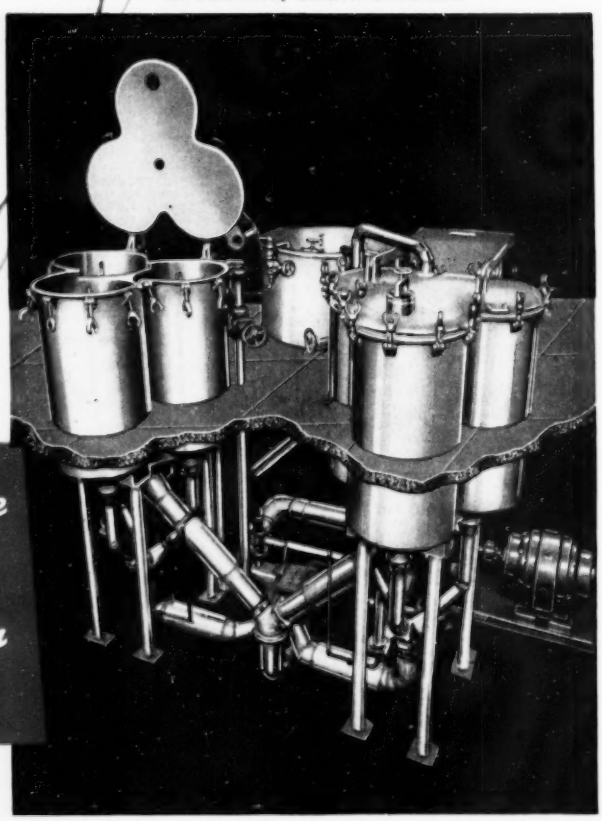
**610 South Carolina National Bank Bldg.**
**Greenville, South Carolina**



*The* **SMITH-DRUM** *Machine that Dyes from 2 to 6 Beams or Yarn Carriers in the Same Bath!*

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Another Fine Rice Dobby Product

## "Wirecore" Loom Cord for Heavy Duty Work

Made with the flexible steel wire centers which carry the brunt of the weight and protected with a braided yarn covering to cushion the cord when passing over the sheaves. Long crimped ferrules prevent the screw eyes from pulling out of the cord. Usable with or without leather ends. A trial order will convince you of the durability and strength of "Wirecore" cord.

**MANUFACTURERS OF**

HARRIS "Heavy Duty" Lug Strap

Leather and Fibre Adjusting Strap

Pick Arm Lug Strap

Special Braided Loom Cord

Improved Dobby Bars

Dobby Pegs

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R. E. L. HOLT, JR., ASSOCIATES

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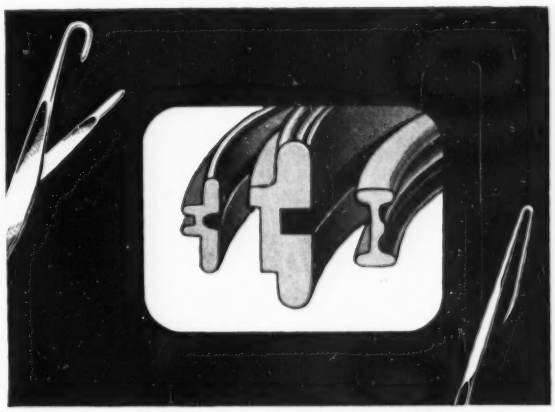

## RINGS FOR *Knitting Yarns*

There is a DIAMOND FINISH ring precisely suited to each operation of spinning and twisting . . . to produce yarns with the uniformity, smoothness and suppleness essential to modern knitting techniques.

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138. **METAL CONVEYOR BELTS**—Recent catalog describes and illustrates Ashworth's entire range of manufacturers, including the new Flat Wire Belt design and application, along with their woven wire constructions and Positive Drive Chain Edge belts. —ASHWORTH BROS. INC., Metal Products Div., Fall River, Mass.

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150. **RIHCO HUMIDIFIERS AND COOLING SYSTEMS**—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

151. **INDUSTRIAL BRUSHES**—Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. **LAMINATED TEXTILE PLASTICS.** Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry.—Write: SYNTHANE CORPORATION, Textile Division, Oaks, Penna.

155. **DUCTLESS AIR CONDITIONING**—24-page illustrated Catalog No. 2 on Amco humidification and ductless evaporative cooling, along with other Amco humidification devices. Contains relative humidity tables and textile regains. — AMERICAN MOISTENING CO., Providence, R. I.

162. **MODERN METHODS OF TEXTILE FLOOR MAINTENANCE**—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.—G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

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167. **COLOR CONDITIONING FOR INDUSTRY**—Booklet describing how color is used to reduce maintenance costs, increase production, curtail fatigue, improve employee morale.—E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIV., Wilmington, Delaware.

169. **MACHINE BRUSHES** — Illustrated Folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request. Write: INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. **BLOWERS AND EXHAUSTERS**—Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings.—BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. **PAINT STRIPPING BOOKLET**—Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion.—OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

179. **BETTER WAYS**—Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving shipping, and production operations by all industries including the textile field.—TOLEDO SCALE CO., Box 97, Toledo, Ohio.

181. **AIR FILTRATION**—Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance characteristics, construction and installation fully discussed.—AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

187. **SILICONE INSULATION**—Data Sheets 14C describing silicone electrical insulating varnishes used in class H equipment. Protection and longer life with Silicone Insulation described.—DOW CORNING CORP., Midland, Mich.

188. **PROGRESSING-CAVITY PUMPS**—A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed.—ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio.

192. **ELECTRONIC HUMIDITY CONTROL.** Bulletin F-5090 gives specifications, detailed control description, installation diagrams, and comprehensive illustrated data on a "package" unit for electronic control of humidity in textile mills.—BARBER-COLMAN CO., Rockford, Ill.

### POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

201. **V-BELT DRIVE CATALOG**—This handy, pocket-sized catalog helps you make quick and easy selections of any Dayton V-Belt Drive from 1 to 1000 horsepower. Contains many concise, accurate drive tables, diagrams, and other important engineering data.—DAYTON RUBBER CO., Dayton, Ohio.

202. **RELIANCE MOTOR**—Bulletin C-130 on the explosion-proof, corrosive-resisting a-c motor. Design features exclusive with the new motor are enumerated and illustrated in the bulletin.—THE RELIANCE ELECTRIC & ENGINEERING CO., 1076 Ivanhoe Road, Cleveland, Ohio.

203. **TREADED LEATHER BELTING**—This 16 page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section.—E. F. HOUGHTON & CO., Philadelphia, Pa.

212. **GATES TEXTILE ACCESSORIES**—Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others.—THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

215. **MOTORS FOR ROVING & SPINNING FRAMES.** Booklet describes Louis-Allis soft-start textile motors. Gives charts showing speed torque curves; illustrating that a standard motor has too much standard Torque and too rapid acceleration. Write: THE LOUIS-ALLIS COMPANY, Milwaukee 7, Wisconsin, for Bulletin 801.

218. **BALL BEARINGS FOR TEXTILE MACHINERY**—A 40-page catalog illustrating Fafnir Ball Bearing unit for replacement or new applications in all phases of textile processing.—THE FAFNIR BEARING CO., New Britain, Conn.

221. **OILER MANUAL**—Highly informative and helpful manual explains in detail the proper application of Trico, Visible, Automatic Oilers to various bearing surfaces. Construction information and valuable suggestions.—TRICO FUSE MANUFACTURING CO., 2948 N. 5th St., Milwaukee 12, Wisc.

224. **MORE ABOUT THE LINT-FREE MOTOR** Construction and application of Westinghouse's lint-free textile motors are described in a revised leaflet now available. Write for: B-3515-A, WESTINGHOUSE ELECTRIC CORPORATION, Box 2099, Pittsburgh 30, Pennsylvania.

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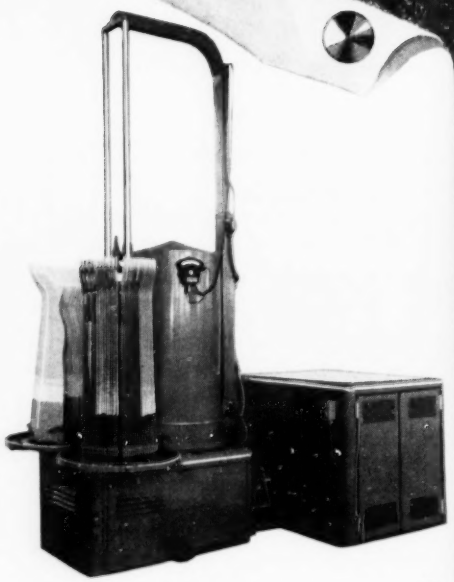
Never before has any one preboarding machine offered all of the advantages that are combined in this new Proctor two operator machine. These are some that will make this the most profitable investment in preboarding equipment that it is possible to make . . . an output up to 46 dozen pairs per hour . . . compact design (occupies a floor area only 5′ wide by 9′4″ long) . . . substantial steam savings . . . stockings are completely dry when stripped. See this machine demonstrated.



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BOOTH NUMBERS 188-193

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PROCTOR & SCHWARTZ, INC.

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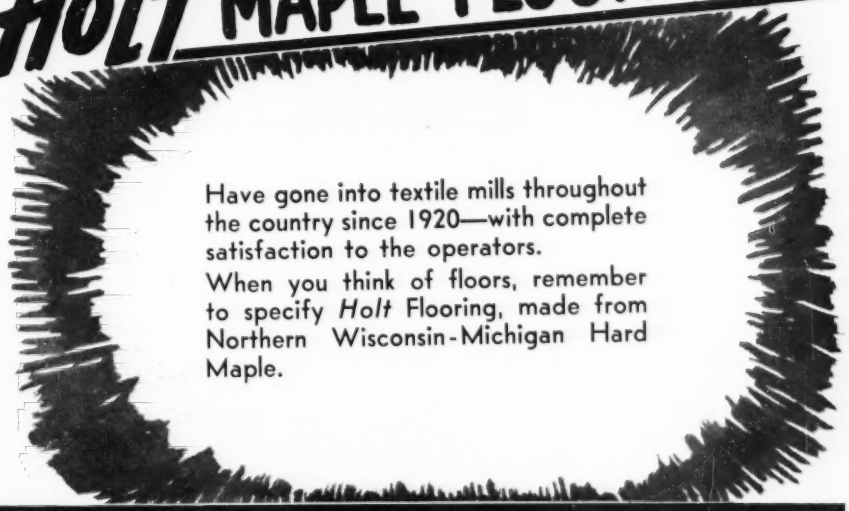
Have gone into textile mills throughout the country since 1920—with complete satisfaction to the operators.
When you think of floors, remember to specify *Holt* Flooring, made from Northern Wisconsin-Michigan Hard Maple.

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236. **LEATHER BELTING CALCULATOR**—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, 35 N. 6th St., Philadelphia, Pa.

237. **MOTOR CONTROL**—Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed.—CUTLER-HAMMER INC., Milwaukee, Wisc.

239. **LICKERIN AND DOFFER BELTS**—Brochure and full information on Lickerin and Doffer belts supplied by.—TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

254. **LOOM RECONDITIONING PROGRAM AT TALLASSEE MILLS**—Reprint of exclusive story on the loom reconditioning program at one of the biggest southern mills. This article shows how central lubricating system was built into each rebuilt loom as part of the improvement program.—ALEMITE LUBRICATING CORPORATION, Rochelle Park, N. J.

259. **SUNOTEX MACHINE OIL**—booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery.—SUN OIL COMPANY, Philadelphia 3, Pa.

262. **SMALL PRECISION METAL PARTS** — Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division. Write: THE TORRINGTON COMPANY, SPECIALTIES DIVISION, 500 Field Street, Torrington, Connecticut.

265. **SERVICE PROCEDURE BALL BEARINGS**—A helpful manual for maintenance engineers giving helpful habits on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism.—NEW DEPARTURE, DIVISION OF GENERAL MOTORS CORP., Bristol, Conn.

266 **LUBRICATION**—Bulletin BG2-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in relubrication requirements described.—DOW-CORNING CORP., Midland, Mich.

277. **SPECIAL TEXTILE MOTORS**—Bulletin 51B-6055A describes special features of "Quick-Clean" motors, including discussion on free air flow, prelubricator bearings, rigid cast iron frame and double insulation.—ALLIS-CHALMERS MFG. CO., Milwaukee, Wis.

## INSTRUMENTS, STEAM SPECIALTIES . . .

301. **JOHNSON ROTARY PRESSURE JOINTS**—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices.—THE JOHNSON CORP., Three Rivers, Mich.

302. **INSTRUMENTS**—Illustrated catalog covering uniformity analyzer, acoustical measuring devices, and other non-destructive industrial measuring instruments. Illustrated brochure describing hypersonic equipment for both laboratory and pilot plant use in the field of ultrasonics.—BRUSH DEVELOPMENT CO., 3405 Perkins Ave., Cleveland 14, Ohio.

303. **PROCESS CONTROL EQUIPMENT**—Catalog containing brief description of standard and special process control equipment engineered for textile industry. Includes schematic diagrams.—MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

311. **PIPING POINTERS**—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.

312. **ACCURATE MEASURE**—Booklet describing the Trumeter line of measuring machines for silks, cottons, linens, woolens, etc. Description and illustration of each machine with dimension diagrams and advantages of each machine.—THE TRUMETER CO., 1265 Broadway, New York, N. Y.

314. **MOISTURE CONTENT CONTROL** — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications.—BARBER-COLMAN CO., Rockfort, Ill.

319. **GUIDE TO CORRECT INSTRUMENT SELECTION**—This completely revised edition gives a comprehensive bird's-eye view of the companies' entire instrument line. Bulletin 98170.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

321. **RED-RAY BURNERS**—Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame.—RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. **STROBOTAC**—Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills."—GENERAL RADIO CO., Cambridge 39, Mass.

333. **HOSIERY DYEING** — Bulletin 98188 with drawings and illustrations, explains automatic control system for hosiery dyeing based on time and temperature.—TAYLOR INSTRUMENT COS., Rochester, N. Y.

## CARDING, SPINNING, WINDING . . .

401. **LUMMUS DUSTLESS, STEEL BLENDING FEEDERS**—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. **AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS**—24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

405. **UPTWISTERS PRODUCING TWO NEW TAKE-UP PACKAGES**—Tapered and headless for all low twist yarns and King Spool for high and low twist yarns without sloughing. High speed delivery without coning. Fully discussed in booklet.—FLETCHER WORKS, INC., Philadelphia, Pa.

408. **CARD GRINDING INFORMATION**—Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information.B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

409. **ROTO CONER**—Bulletin describing Universal rotary traverse winder, known as the Roto Coner, producing open wound cones or knitting and warping; parallel tubes for package dyeing, twisting, and sale yarn.—UNIVERSAL WINDING CO., Providence, Rhode, Island.

412. **SERVICE FOLDER**—Folder covers textile metal products including spinning and twisting cylinders, card screens, etc.—JENKINS METAL SHOPS, INC., Gastonia, N. C.

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## New Du Pont FLOW KOTE WALL PAINT

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This amazing rubber-base wall paint is perfectly suited to mill-village interiors. Low-cost FLOW KOTE glides on quickly without streaks, safely seals wallboard, aged bare plaster, dry wall construction. FLOW KOTE dries in 30 minutes to a beautiful, velvet finish that's simple to keep clean because it's *super-washable!* Can be applied by brush or roller, has no unpleasant odor.

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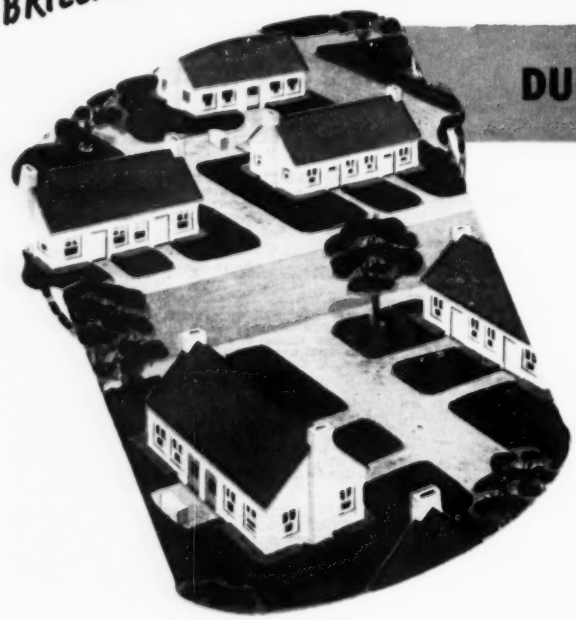

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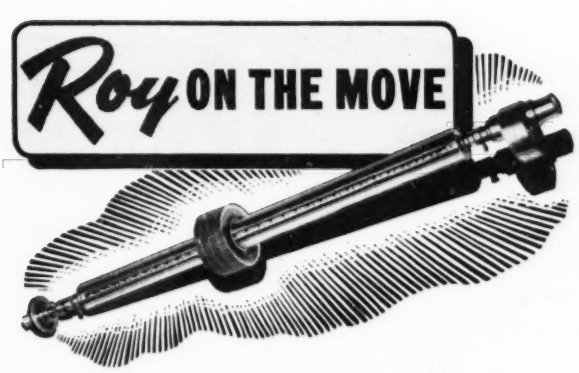


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**414. WORSTED SPINNING**—Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages.—SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

**416. THE BRIEF SAGA OF THE RING TRAVELER**—An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

**418. PACIFIC CONVERTER**—Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend.—WARNER & SWASEY CO., Cleveland, Ohio.

**419. TEXTILE APRONS**—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

**420. AUTOMATIC FILLING WINDING**—Eight page, two color booklet describing the operation and mechanism of the Hacoba winder.—ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

**421. CARD ROLL COVERS**—Brochure describing the Davis seamless roll covers. Lists advantages, specifications and offers free trial.—THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

**422. MODERN TEXTILE ROLL COVERING**—Illustrated booklet on roll covering problems with charts on correct usages. Also data on Acotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

**425. HANDY REFERENCE TABLES**—Folder showing spinning traveler speeds, sizes of ring flanges, etc.—VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

**430. DIXON DATA**—Dixon house organ entitled "Dixon Data," which is available in a new form every other month. These house organs contain information on spinning problems as they relate to saddles and component parts.—DIXON LUBRICATING SADDLE CO., Bristol, R. I.

**435. DOUBLE DECK TWISTERS** — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

**436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER**—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

**437. SPINDLE TAPE LANCING EQUIPMENT**—Circular No. 54 illustrating and describing the Clipper method of joining spindle tapes.—CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

**438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING**—Literature shows high-speed Face Drive Twister for accurately building tapered or straightened headless packages which go direct to quilling or warping without redrawing.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

**445. ROLLER BEARING SPINDLES**—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

**446. WINDING MACHINES**—Principles and Practices is the title of Bulletin No. 339, Part 2 on the No. 44 Roto-Coner is profusely illustrated with exploded view drawings with charts and tables relative to drum winders.—UNIVERSAL WINDING CO., Providence, R. I.

**447. CONE WINDER**—Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

**454. CARD AND PICKER BEARINGS**—Four-page, two-color folder which describes this manufacturer's ball and roller bearings for cards and pickers.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

**455. PIN DRAFTS**—Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data.—WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

**456. WARP TYING**—Bulletin T-2 on the "Two-In-One" Titan automatic warp tying machine—speed, flexibility, efficiency, and economies fully discussed.—EDDA INTERNATIONAL CORP., 470 4th Ave., New York City, New York.

**458. CONICAL RINGS AND FLYERS**—Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

**459. TENSION CONTROLS**—Folder describing tension compensation and automatic tension controls. Three models—Standard, Warp, and Double Disc. Fully described with specific application.—WALTER KIDDIE & CO., INC., Belleville 9, N. Y.

**461. PRECISE WIND MACHINE**—Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns.—FOSTER MACHINE COMPANY, Westfield, Mass.

**462. TEXTILE MACHINERY PARTS CATALOG**—A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc.—DAYTON RUBBER CO., Dayton, Ohio.

**466. CONDENSED LISTINGS**—8-page pocket sized booklet listing by plan flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

**467. CARD CLOTHING**—8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — Write: BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

**468. BALL BEARING TOP ROLLS**—Bulletin features top roll for Spinning and Roving Frames with sealed lubrication, interchangeable units, low-cost servicing and precision quality.—Write: FAULTLESS CASTER CORPORATION, Textile Equipment Division, Evansville 7, Indiana.

## WEAVING, SLASHING . . .

**501. LOOMS**—An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms". Information on all types fully discussed. —CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

**503. WEAVER'S KNOTTER**—A catalog on the

# *The* UNIVERSAL SHUTTLE TRUING MACHINE

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BY

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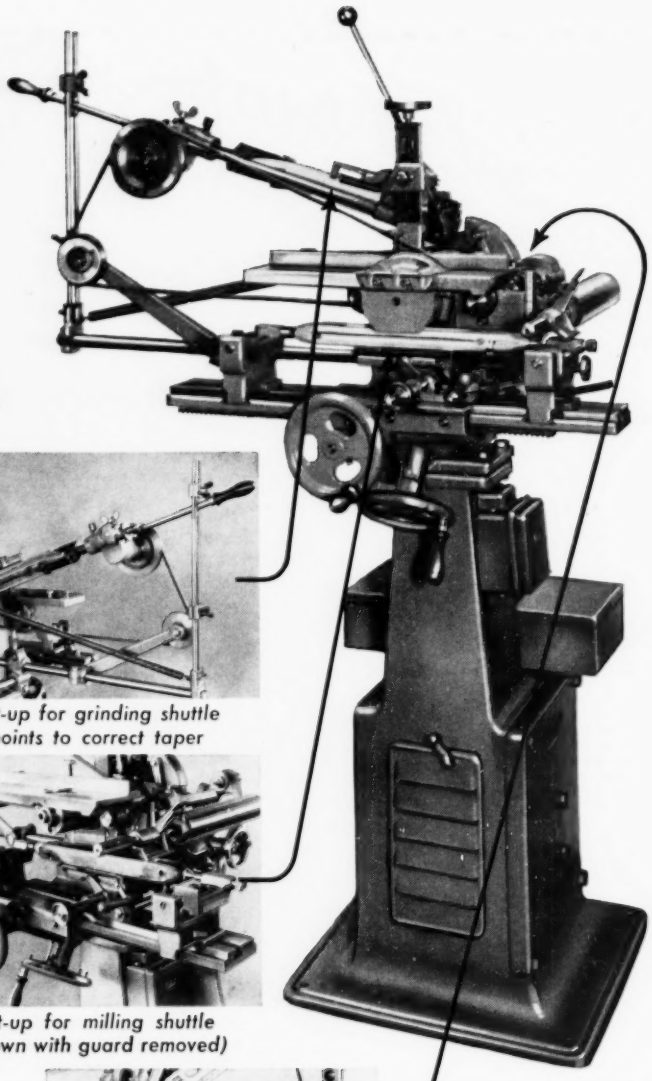

Old, out-of-true shuttles reduce the efficiency of your looms and impair fabric quality. New shuttles are costly. Anything that you can do to prolong shuttle life is money in your pocket . . . and you *can* do something. You can install the Staubli Universal Shuttle Truing Machine. Here's what it does for you —

- **Accurately shapes all shuttles to identical dimensions**
- **Grinds and polishes shuttle points to exact original taper**
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- **Mills shuttle sides to a smooth new surface**
- **Cuts grooves and slots into shuttles, shuttle box fronts and reed frames**
- **Machines wooden fronts and backs of shuttle boxes**
- **Resharpens cutter knives without removal from the cutter**
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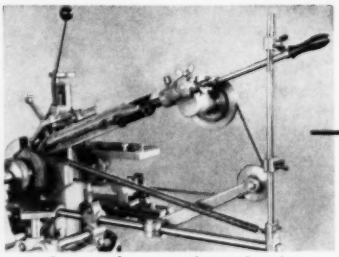
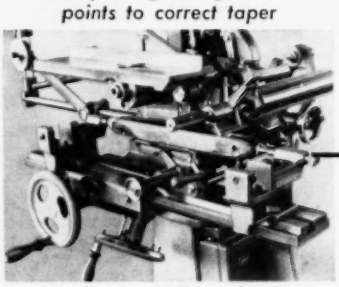
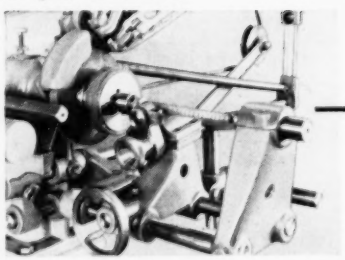
- **Bobbin Rectifying Device turns old bobbins to a true round**



*Set-up for grinding shuttle points to correct taper*



*Set-up for milling shuttle (shown with guard removed)*



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529. ROTARY DYEING MACHINE—Booklet No. 436 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Allegheny Avenue at 5th St. Philadelphia 33, Pa.

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**1101. AUTOMATIC BOBBIN REFINISHER**—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production scheduls.—J. M. MARR COMPANY, 2300 N. 30th St., Milwaukee, Wis.

**1102. BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

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MARCH, 1953

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## SUPPLIERS News — WHAT THEY ARE DOING

(Continued from page 201)

throughout the eleven states in which his company operates."

John H. Bolton, Jr., has been made assistant treasurer of the **Whitin Machine Works.**

Joe Callicott, formerly connected with the Claussner Hosiery Mills, has been appointed southern sales repre-

**Mr. Callicott**

sentative for **Standard Chemical Products, Inc.** His headquarters are in Athens, Ga.

Robert J. Hamilton, Jr., with the firm since 1929, has been appointed advertising manager of **General Dye-**

**Mr. Hamilton**

**stuff Corp.** He will handle advertising for both General Dyestuff and its Antara Chemicals division.

**Product Sales, Inc.,** Whitman, Mass, which previously represented Machinecraft, Inc., in the North and Canada, has added the South to its territory. New salesmen in this area are: J. H. Canady, Alabama, Georgia, Louisiana, Mississippi, and Tennessee; Dudley Dunlop, South Carolina; and Ray McCauley, North Carolina and Virginia. Frank Cotton is now sales office manager at Whitman; and Richard K. Butler has been appointed vice-president of the firm.


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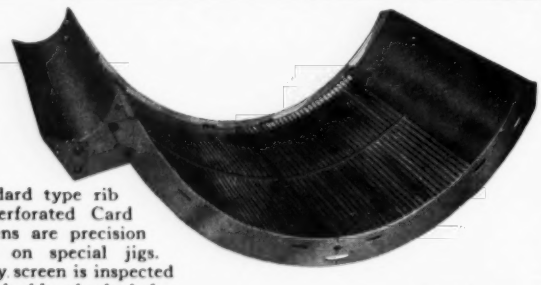

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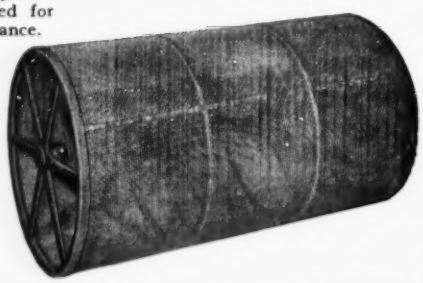
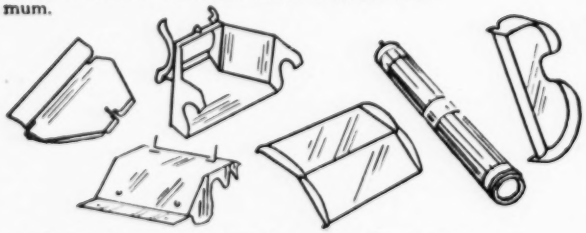


Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.

New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.



*Years of practical experience—the finest of raw materials—and precision machinery in the hands of skilled workmen go into every product.*

**GASTONIA TEXTILE SHEET METAL WORKS, INC.**
**GASTONIA, NORTH CAROLINA**

**A SHEET METAL WORKS SERVING TEXTILE MILLS**

---

## standardize on standard

## UNBRAKO®

### SOCKET CAP SCREWS

Knurled heads for sure finger grip and fast assembly; accurate hex sockets for positive, non-slip internal wrenching; made of heat treated alloy steels. Fully formed threads, Class 3 fit. Controlled fillet and continuous grain flow assure unusual strength. Available in standard sizes from #4 to 1" in a full range of lengths. Stocked by your local industrial distributor. To save time and money, write for UNBRAKO Standards. SPS, Jenkintown 34, Pa.

*Our Fiftieth Year* : A START FOR THE FUTURE

**UNBRAKO SOCKET SCREW DIVISION** **SPS**
JENKINTOWN PENNSYLVANIA

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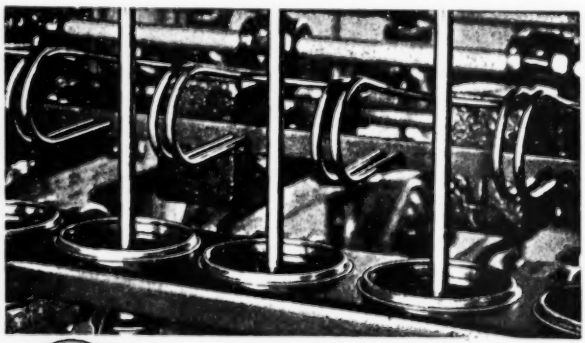


## G-C TWISTER RING GREASE... 40% Higher Melting Point

Laboratory tests prove G-C Twister Ring grease doesn't melt at temperatures 40% higher than other greases. Regular mill users find it stays in rings up to 40 hours and longer. No throw-offs, no staining, no clogging. Even distribution, complete lubrication. Used for twisting any yarns. *SAMPLE GLADLY SENT ON REQUEST*

**GEORGIA-CAROLINA OIL COMPANY**
*Quality Lubricants* G-C *Since 1919*
MACON GEORGIA

**Non-melting oils for top rolls, comb boxes, looms and motors. Ben Boy non-melting greases for dry cans, slashers, calenders, dryers.**

**Packing for a 25,000-Mile Trip**

The **Yale & Towne Manufacturing Co.** has in progress a materials handling road show which will make a 25,000 mile tour of the continent. Two trailer trucks carry the show, including gasoline and electric lift trucks, special attachments, a variety of hoists and a crew of seven men.

One-day, three-show stands are planned for cities visited.

Pellissier, Jonas and Rivet, Inc., has been liquidated and its subsidiary, Unique Fibers, is dormant. All products formerly produced by these companies are now being sold and distributed by **James A. Jonas Products, Inc.**

Mark J. Wells has been appointed field representative for the **Libbey-Owens-Ford Glass Co.'s** fiber glass sales in the St. Louis industrial area and southwest region. His headquarters will be at 411 North Seventh St., St. Louis. **Anesco, Inc.,** Toledo, O., has been named distributor for fiber glass insulation in Ohio, Michigan, and Indiana.

**Liller, Neal & Battle,** Atlanta, Ga., advertising agency, has opened an office in New York at 40 East 51st Street. Robert B. Kane, formerly with the agency of Fletcher D. Richards as an account executive on the textile division of U. S. Rubber Co., in in charge. According to C. K. Liller, partner, this is the first southern agency to offer the coordinated services required to handle textile leaders' advertising accounts.

**Lincoln Engineering Co.** has announced the following appointments: Robert E. Redenbaugh, manager of the original equipment division, to direct sales of lubricant application devices; T. V. Picraux, production manager of both the company's plants; and Albert J. Gruenewald, succeeding Mr. Picraux as sales manager of the industrial division.

John R. Potter is now manager of the Boston office of **Lockwood Greene Engineers, Inc.,** located at 40 Central Street. He succeeds Howard E. Cousins, retired.

Bruce D. Hodges, Jr., previously with Burlington Mills Corp., has

**Mr. Hodges**

joined **Howard Bros. Mfg. Co.** as representative in the Carolinas.

The **Lund Manufacturing Co.,** Biddeford, Maine, has been organized by Wendell E. Lund, formerly general superintendent in charge of manufacturing at Saco-Lowell Shops, and other financial interests. This

*You Are Cordially Invited*

to Visit Us

at the

**Knitting Arts Exhibition**

Atlantic City Auditorium

Atlantic City, N. J.

**April 27 thru May 1, 1953**

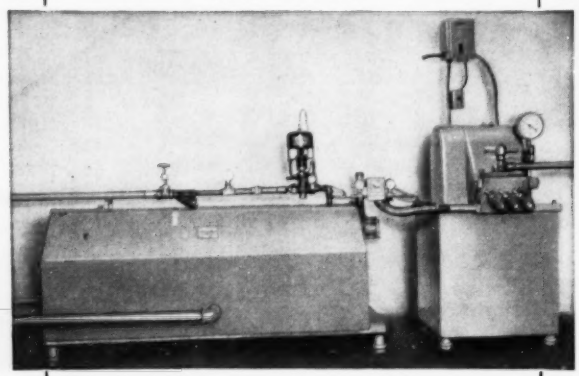
**BOOTH NUMBERS 73-74**

**THE INDUSTRIAL DRYER CORPORATION**

**Stamford, Conn.**

Manufacturers of the **"H-W" CONDITIONER®** for conditioning and twist-setting of Cotton, Synthetic, Worsted, Woolen, Silk, All Combination Yarns and Nylon Hosiery

# Cut Sizing Costs–
## INCREASE EFFICIENCY



***with the unique, tested***
## Scott & Williams
# HYDROPULSE

The HYDROPULSE consists of a special heat exchanger and high pressure homogenizer for producing finished size. Developed, built and proved in the textile industry, these are a few of its many advantages:

★ Gives continuous, controlled flow of *uniform* size—at the rate of slasher consumption.

★ Eliminates all cooking time, wasted size and the varying dilution due to steam condensation.

★ Cuts steam consumption — by as much as 50%, according to recent mill tests.

★ Eliminates "soft" and poor running warps and warp-to-warp variation—increasing the efficiency of both slasher and loom.

The HYDROPULSE is flexible and can be installed to meet any mill's requirements. May we send you our bulletin containing complete information?

*Manufactured by*
**PIONEER DIVISION, SCOTT & WILLIAMS, INC.**
Empire State Building, New York 1, N. Y.

*Southern Sales and Service*
## SOUTHERN SIZING COMPANY
East Point, Georgia

**Southern Sizing Company**
**East Point, Georgia**

Please send me a copy of your bulletin containing information on the HYDROPULSE.

Name _____ Position _____

Company _____

City _____ Zone _____ State _____

# NOW FOR YOU the new PLASTIC BASE SKEWER!

**check these points:**

1. **Designed for 8" to 11" CARD ROOM BOBBINS.**
2. **Durable all-plastic construction gives CONSTANT TENSION IN CREEL.**
3. **Left-hand thread screw STAYS TIGHT ON BARREL.**
4. **CONTINUAL ECONOMY—broken barrels easily replaced.**
5. **PATENTED for constant, high-quality service.**

ALSO FOR YOU—the best CARD ROOM BOBBINS, QUILLS, SPINNING BOBBINS, WINDER ROLLS, CONES, TUBES and SKEWERS. Manufactured under license, TUBES for NEW ERA SPINDLES.

## MONTICELLO BOBBIN COMPANY
**MONTICELLO, GEORGIA**

*The ONLY manufacturer of Card Room Bobbins in the South.*

# *Satisfied Smiles come with all our belts*

**HERE'S WHY**

1. Constant uniformity of power distribution.
2. Reduced "down-time."
3. Increased machine production.
4. Long dependable belt life.

Belts by ATLANTA BELTING CO. will SAVE YOU MONEY. Enduring service is assured by our combination of top-quality raw materials and superior workmanship.

STRAPPING? . . . Whatever you need, leather or fabric custom designed or standard, you can get it at ATLANTA BELTING CO.—made by strap experts on modern machinery using selected leather.

## ATLANTA BELTING CO.
508 Whitehall St., SW, Atlanta, Ga.

REDUCE your check strap cost by using our ABC HAIRON check straps. By actual test one of our ABC HAIRON check straps has outlasted from 2 to 3 competitive straps. Straps are furnished straight, curved or endless to suit your needs.

## SUPPLIERS News — WHAT THEY ARE DOING

firm will manufacture standard and special cutting tools and engage in contract machine and tool work.

**Mellor Bromley & Co., Ltd.**, Leicester, England, body knitting machine builders, has formed an associated American company known as Mellor Bromley Group Inc., 432 Fifth Avenue, New York City. The new firm will sell, install, and service the parent concern's knitting machines throughout the United States. George R. Ford is in charge.

Homer Carter, Jr., has recently been made manager of the nylon division of **American Enka Corp.**, New York, N. Y.

598 members of **Textile Machine Works'** Quarter Century Club recently held their annual dinner, with 52 new members being presented with gold watches.

**Trust Co. of Georgia** recently announced the promotion of George T. Lamb to assistant treasurer and office manager of the Factoring division.

As part of the promotional tie-in between "La Sinfonia del Color" and local textile manufacturers and dyestuff distributors, two of the models visited the textile plant of Yarur, S. A. in Chile. Vice-president of the company is Amador Yarur, second from left. Other three men are executives of M. Hoschild & Cia. Ltda.; distributors of General Analine & Film Corp.'s dyestuffs and textile chemicals.

### *Latin American Tour Promotes American Textiles, Dyestuffs*

The largest single promotional package to dramatize to foreign countries the coordinated workings of the U. S. textile industries has just completed a 16,000-mile tour of Latin America.

The package was a high-fashion show called "La Sinfonia del Color" (Symphony of Color) sponsored by General Aniline & Film Corp. and General Dyestuff Corp.

Sinfonia was conceived for a dual purpose. The first, according to Jack Frye, president of G.A.F., was to "illustrate American coordination and know-how to our Sister Republics in combining textiles, design, and color in high-fashion styling."

The second purpose was the sales promotion of dyestuffs, Ansco color film, and other G.A.F. products. General John Hilldring, vice-president in charge of foreign operations for G.A.F., planned the promotional campaign with a V-approach: to create public style and color demand on the one hand, and to spark distributor relations on the other—then bringing both to converge on the sales target, the converters and manufacturers of textiles.


# "Horse and Buggy" Methods

**New Developments**

The methods of today will be the "horse and buggy" methods of tomorrow! Many changes have taken place in the last few years and more are doubtless on the way. There was never a time when it was so important for textile men to take advantage of all the aid they can get.

**Use T. I.'s Help**

You can get the aid you need through TEXTILE INDUSTRIES. Month after month T. I. brings you practical and interesting articles on mill problems and solutions; constructive experiences and suggestions of men in the various branches of the industry whose problems are the same as your own.

Read each issue carefully and have others in your organization read it. T. I. will keep you abreast of the rapid changes which are taking place in our field.

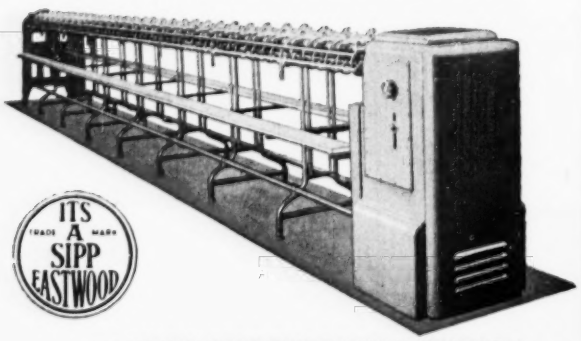
The time each month you spend reading TEXTILE INDUSTRIES will be a most profitable investment for you. Keep your subscription in force at all times. Three years for only $4.00.

**Textile Industries**

**806 Peachtree Street, N.E.**
**Atlanta 5, Georgia**

# *For Perfect Spools at Higher Speeds-*

## SIPP-EASTWOOD
# WINDER-REDRAW

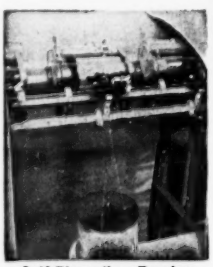


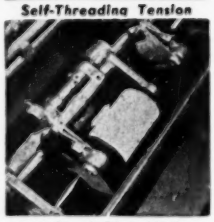

- **WITH SELF-THREADING TENSION**
- **SELF-OPENING SPINDLELESS ATTACHMENT**
- **FULL SPOOL STOP MOTION**

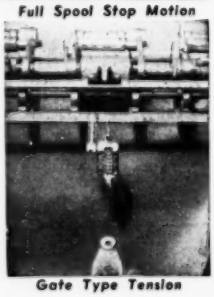
Deliberately designed for perfect spools at higher speeds and greatest possible automatic operation. This brand new winder-redraw requires a minimum of attention during operation and is easy to clean and maintain.

**FEATURES:**

1. **Washer type self-threading tension** fastened to traverse rail is easily adjustable and quickly cleaned. Eliminates all threading operations.
2. **Gate type tensions** available with self-threading Alsimag guides for nylon.
3. **Full spool stop motion** prevents overrun bobbins.
4. The drive and traverse mechanism is enclosed in one complete unit and is lubricated by a circulating oil bath.
5. Traverse adjustment is independent on each side of machine and can be adjusted from 3½" to 7" traverse without changing cam.
6. Speed changes are readily accomplished through the use of a hand-wheel.
7. Winds per stroke easily adjustable.
8. Single or double drive self-opening spindleless brackets are available.
9. Easily changed for "S" or "Z" twist by use of reversing switch.
10. Tachometer available for easy speed readings.


*Self-Threading Tension*


*Full Spool Stop Motion*


*Gate Type Tension*

***Write for Descriptive Folder***

**SIPP-EASTWOOD CORPORATION**

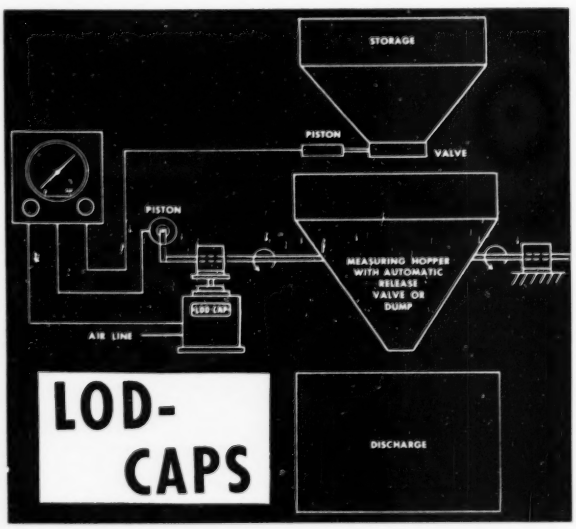
*Producers of Superior Equipment for Textile Processing*

**45 KEEN STREET, PATERSON, N. J.**

# INCREASE YOUR PROFIT with AUTOMATIC Bulk Measuring or Weighing

# Link

## ACCURATE to 1/10 of 1%




are
- ★ **Extremely Simple**
- ★ **Comparatively Inexpensive**
- ★ **Compact and Easy to Install**
- ★ **Pneumatically Operated**
- ★ **Remote Controlled in units or multiple installations**

Can be used for weighing liquids, powders, granules, grains, grits, sand, gravel, flour, shavings, parings, sawdust—almost any liquid or solid that will flow.

*Write for Folder JLC3*

Link Products are designed and distributed by Weber Instrument Co.

**Link ENGINEERING COMPANY**
13843 Elmira Detroit 27, Mich.

## Hosiery Finish Protects Against Bacteria

*(Continued from page 117)*

the wearer where skin disturbances of a dermatological nature occur.

Test results show that the finish is non-toxic. It acts as an odor preventive and has the additional feature of being self-soaping. Washing in tepid water is all that is required to make stockings finished with Immune thoroughly clean. Mono-filament hosiery becomes more sheer, and the finish imparts a feeling of roominess and greater resiliency.

A transfer showing the Immune trade mark will appear in conjunction with brand names on hosiery processed with the finish.

*Universal Dye Works, Inc., Philadelphia, Pa.*

For additional data, request item D-603, using Handy Return Card on page 214.

## Time Saver for Plant Layout Planning

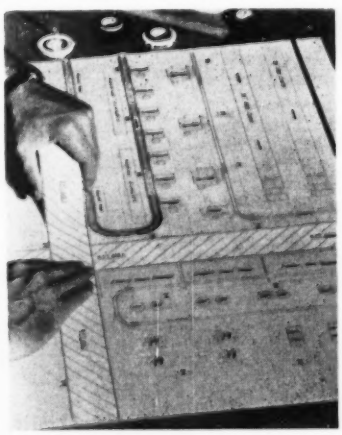
Large savings in drafting time are realized by the use of pre-printed Labelon Adhesive Tape for plant layout planning. Not only is the tedious initial drawing of repetitive symbols eliminated, but changes in temporary layouts can be made instantly by simply stripping the tape from its original position and placing it wherever wanted. No redrawing or erasing is necessary. The tape can be stripped off repeatedly without leaving a mark or losing its adhesive quality.

All standard symbols for walls, aisles, conveyors, monorails, center lines, columns, shafts, stairways, service lines, railroad tracks, sidings, colored arrows for material and process flow, etc., are available in either 324" or 648" rolls (or both), scale ¼" to 1 ft., in opaque or transparent types. The opaque types are used for photo-copying; the transparent for reproduction on standard ammonia vapor machines.

*Labelon Tape Co., Inc., 450 Atlantic Ave., Rochester 9, N. Y.*

For additional data, request item D-620, using Handy Return Card on page 214.

Labelon tape for layout planning.



# NEW Equipment AND MATERIALS

***Other items are described on pages 115 and 117***

## Precision Instrument for Detergency Studies

For those concerned with detergents, their production, use or study, the "Deter-Meter" detergency tester (originally developed for the Quartermaster Corps by the American Conditioning House, Inc.) is now available.

One of the important advantages offered by the tester is that of high test precision. Washing duplicate four-inch diameter discs of test fabric in this instrument, for example, provides data adequate for most routine tests and fully as accurate as


HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

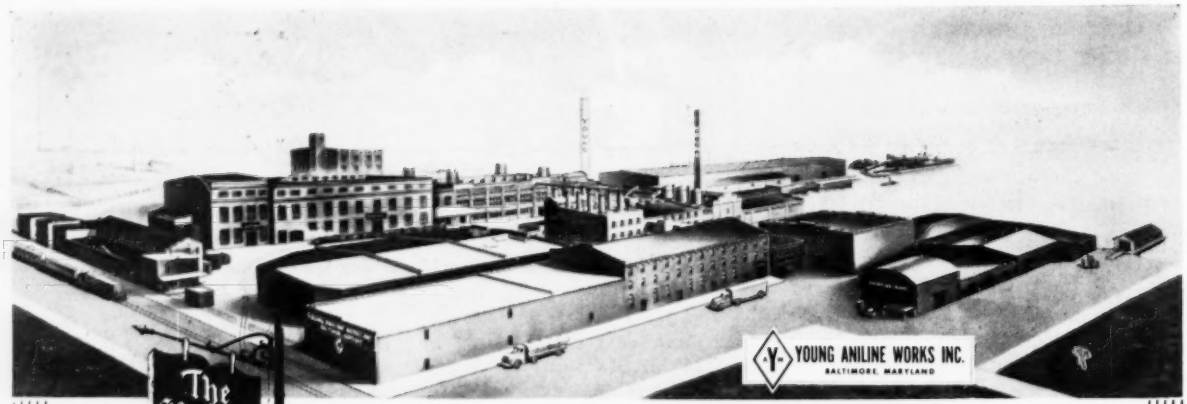
Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

*Metal Protection for Wood Turnings*

J. N. ANDERSON, *Treas.*

LAWRENCE, MASS., U.S.A.




The House of Blacks

## ACID BLACKS • DIRECT BLACKS
## ACETATE BLACKS • LOGWOOD BLACKS
## FORMALIDE BLACKS • DEVELOPED BLACKS

Consult your local dyestuff distributors for information and samples. Shipments can be made from their convenient stocks or from our Baltimore or Paterson warehouses.

**YOUNG ANILINE WORKS, INC.**

PATERSON OFFICE
50 E. 13th St., Paterson, N. J.

OFFICE AND FACTORY
2701-2733 Boston St., Baltimore 24, Md.

AYW

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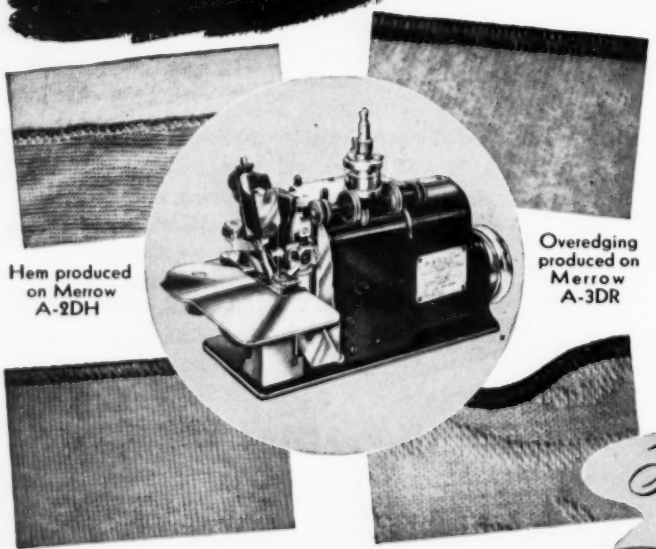
# "MERROWING" . . . Overseaming, Overedging and Hemming



Hem produced on Merrow A-2DH

Overedging produced on Merrow A-3DR

Overseaming produced on Merrow A-3DW

Smooth scallops produced on Merrow A-3U

Merrow Overstitching Machines reflect over 60 years' experience in the manufacture of industrial sewing machines. The term "Merrowing" . . . used throughout the industry to describe overstitching . . . is recognition of this experience and "know-how"

Illustrated are a few of the many applications possible with Merrow Overstitching Machines.

Let us demonstrate the work of these machines on swatches of your own fabrics: write The Merrow Machine Co., 2803 Laurel St., Hartford 6, Conn.

TRADE MARK REG.

The MERROW MACHINE COMPANY

ESTABLISHED 1838 INCORPORATED 1898

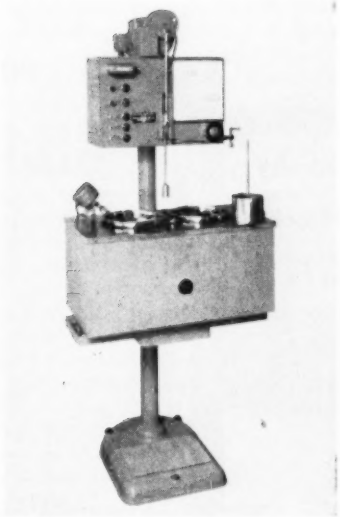
DISTRIBUTORS IN PRINCIPAL TEXTILE CENTERS

2805 LAUREL STREET • HARTFORD, CONN.

that usually obtained from a large number of swatches subjected to the usual random action type of laboratory washing. This high testing precision offers a considerable economy in time for both the routine type of testing and research detergency studies.

Another important advantage is that of extreme versatility. Because of the wide range of mechanical action which this instrument is capable of, it is possible to readily duplicate the degree of mechanical action of almost any washer on the market. This includes both laboratory units and commercial washers. Because of this versatility, it is possible to duplicate testing procedures which have been set up using other instruments. It is also possible to make a detailed investigation of the relationship between mechanical energy input and detergency. Each of the variables which affect the mechanical action of the tester is very closely controlled and is capable of being reset with a high degree of reproducability.

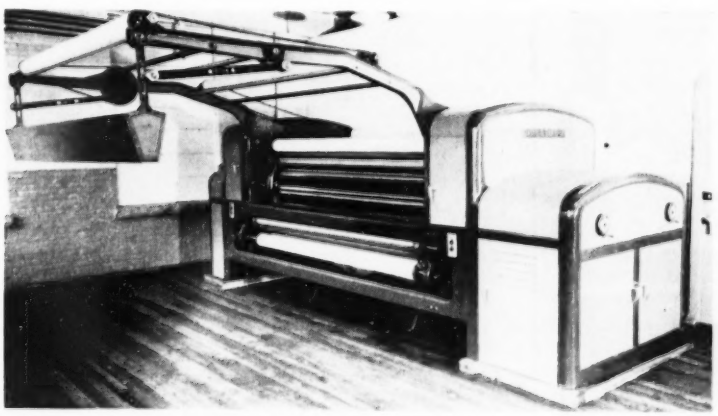
Also available from this same source is soiled cloth for use in detergency tests and studies. Newest in the commercial line of precision tested soiled cloths is ACH No. 130, a cotton soiled cloth designed primarily for use in the laboratory. It is formulated to meet precision requirements in both reflectance and turbidity type testing.



**"Deter-Meter" detergency tester by American Conditioning House.**

*American Conditioning House, Inc., 11-17 Melcher St., Boston, Mass.*

For additional data, request item D-604, using Handy Return Card on page 214.



Davis & Furber Simplex Model L-3 napper

## Double-Acting Napper Features Simplification

The Simplex Model L-3 napper is of the 24-roll, double-acting type for use in woolen fabric mills, as well as on wool and part wool and cotton or synthetic fiber blankets. It is completely modern in design with totally enclosed drive and gears, particular attention having been paid to simplification of operation.

Because of the addition of sensitive dial controls and elimination of change gears, a pre-determined finish can be automatic. The guesswork is taken out of subsequent runs on the


Cuts Nylon Sliver Accurately Into 2" Lengths

Guards removed to show drive.

TAYLOR-STILES FIBER CUTTER NO. 112

—shown here cutting nylon sliver six strands at one time, is one of several types that provide for all the staple cutting, sliver cutting, and thread waste cutting needs of textile production.

The unique shearing action of the knives in these cutters coupled with other special features assures clean, uniform cutting.

Taylor-Stiles Textile Cutters are economical in power use, and are easy to maintain.

The knives used in them are specially shaped and tempered to meet the exact requirements of each type of operation. They are made by our own knife experts.

Ask us about our cutters for your own textile cutting purpose. We will be glad to make sample cuttings if you send us some of the material you wish to cut.

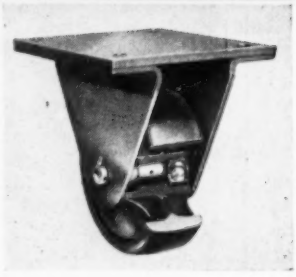
TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

204 Bridge Street, Riegelsville, New Jersey

. . . Especially Designed by Darnell Engineers for Use on

**DOFFING TRUCKS**

THE XE-74-WCI



Darnell designed for Doffing Trucks here is a caster that will give years of trouble-free service. . . that stands the abuse peculiar to Doffing Truck operation. Note the extra-heavy rimmed, high crowned Darnelloy wheel, featuring closely fitted string guards which keep caster free-rolling at all times. Extra heavy ball races and cones with solid row of precision balls. Alemite Zerk lubrication. Wheel designed for large grease capacity.

*Why Not Ask Your Distributor To Show You This New Caster*

**DARNELL CORPORATION, LTD.**
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

SAVE MONEY—IMPROVE QUALITY
INCREASE QUANTITY WITH

# Gladwin Plastics'

**NEW IMPROVED**

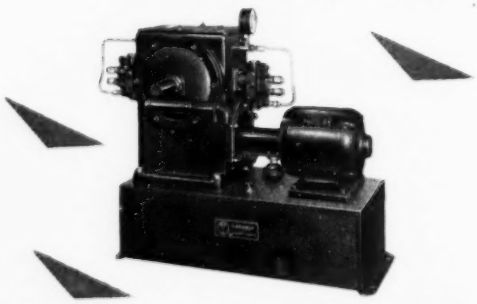
# Sliver Guides

***Write today for illustrated literature!***

New improved design facilitates the drawing of sliver from cans into drawing frame. Has helped reduce variation from 20% to 12% on combed cotton sliver. Especially useful when running eight ends with 12 to 14 inch diameter cans; eliminates stretching of sliver. Eliminates down time caused by sliver breakage, splitting and curling—quantity of sliver drawn through frame is substantially increased. Made of U. S. Rubber's "Royalite", the guides cause absolutely no static electricity. Guides available with or without frames. First 56 mills now being equipped.

**For complete details write today to**
**Ralph Chambers, Textile Service Division**
**GLADWIN PLASTICS**
**275 Houston St., N.E. • Atlanta, Ga. • ALpine 5384**

# For Guiding Cloth into Tenter Frames



***the ASKANIA FOLLOW-UP CONTROL***

Here's a simple, dependable, automatic control for guiding cloth into tenter frames. It handles any type of cloth . . . from coarse scrims to heavy woolens. Check these advantages:

- **METAL PARTS DO NOT TOUCH CLOTH.** A breath of air constantly "observes" selvage position.
- **CONSTANT ACCURACY.** The slightest deviation in position of selvage is quickly corrected.
- **EASY TO INSTALL.** Fits existing tenter frames without modification.
- **EASY TO MAINTAIN.** No electronics, no reversing motors . . just simple air and oil lines.

***For additional details, request bulletin 260.***

**ASKANIA REGULATOR COMPANY**
242 E. Ontario Street Chicago 10, Illinois
*Subsidiary of General Precision Equipment Corp.*

same fabric construction so that the amount of energy applied will be the same as on previous runs. Therefore, a duplication of the desired nap is possible without any trial and error period which usually results in many seconds, spoilage of goods, and costly time spent in refinishing.

The new machine will finish a wider variety of fabric constructions than ever before. This versatility is combined with other advanced engineering, such as anti-friction bearings and easy changes of cloth speed while in operation. Strict attention has been paid to features leading to maximum safety for the operator, and cleaning and lubrication downtimes are lowered so that they have become negligible factors. Available in 80-, 90-, or 100-inch widths, the napper also incorporates other features which greatly simplify the changing from a double-acting to a single-acting napper with a minimum of extra material.

*Davis & Furber Machine Company, North Andover, Mass.*

For additional data, request item D-605, using Handy Return Card on page 214.

## Eliminate Spotty Dyeing on Dacron and Blends

Spotty dyeing of Dacron and Dacron blends is eliminated with Dynadye-V, a solution of a sodium salt combined with suitable surface active agents which encourages complete dye solubility.

Dynadye-V has been successful commercially for packaged yarns, skeins, piece goods, and finished goods. Combined with selected acetate dyestuffs, under ordinary dyeing conditions, no difficulties were met in getting excellent wet and dry crock-fastness and extreme

## Want More Information on These Items?

*Use Handy Return Card on page 214, giving Key Number (D-500, etc.) which appears after the name of the supplier of the item in which you are interested. Or, if you prefer, write supplier direct.*

A heavy duty, self-contained, **electric dehumidifier,** called "Moisture Magnet," automatically removes excess water from the air of enclosed spaces to prevent corrosion of metal, eliminate mold, mildew or rot of materials in storage, etc. Electric outlet is only installation requirement. Available in two capacities. Recommended for operation at room temperatures of 60 to 110 F and relative humidities of 40% to 100%.

*Remington Corp., Air Conditioning Div. (D-301).*

**Mechanical seal** that will withstand pressures up to 1000 psi is designed for applications where ruggedness is an important factor. A packaged unit, the Type 8-B Shaft Seal is furnished pre-assembled on a sleeve for ready installation. Extremely compact design adapts it for use in conventional pump stuffing boxes.

*The Crane Packing Co. (D-302).*

A complete line of **plastic pipe** based on high impact styrene in sizes ranging from ½" to 6" O. D. has outstanding impact resistance and good resistance to a wide variety of corrosives. Designated "Ampcolite" pipe, it is available in 10' and 20' lengths. Threaded fittings are available in sizes up to 2".

*The Atlas Mineral Products Co. (D-303).*

**Conveyor trolley wheel lubricator** delivers a pre-set, constant shot of either oil or lubricant to each trolley wheel on each side of the conveyor system into which it is installed, simply by flick of a switch. When every wheel in system has been serviced, system may be switched off and is in constant readiness to go into operation again at whatever lubrication interval load and other conditions require. Sold as package unit complete with section of track.

*Alemite Division, Stewart-Warner Corp. (D-306).*

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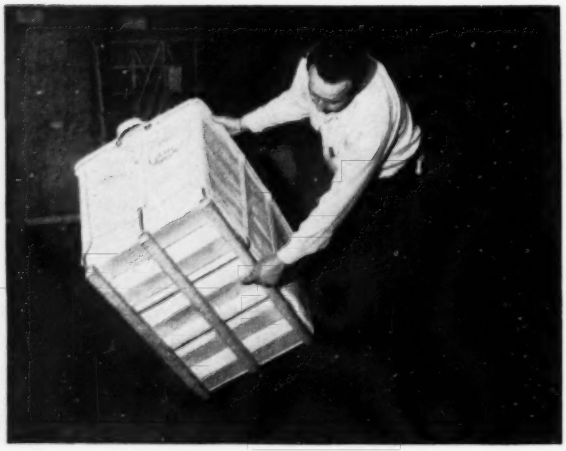

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- Heavy duck sleeves for holding body to frames
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- Self-embedded rivets in duck prevent sharp cutting edges

Hardwood bottoms—dual riveted—are stronger than strip steel bottoms and here's the proof: drop a loaded basket off a tail gate and you'll see the difference. Strip steel bottoms will bend and buckle out of shape. The hard maple bottom of a Lane basket is designed to be resilient and can take the shock in stride . . . cross boards are *dual riveted* to shoes.

Don't be misled—a Lane hardwood bottom is *stronger than a strip steel bottom.* Our fifty years of experience has taught us this and we pass it on to you in the form of better baskets to serve you better.

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- *KALPINOLS*, for trough solution.
- *NYLON OIL*, for knitting 15 denier.
- *K.N.K. (Kali Needle Kleaner).*
- *HYDROXY NYLON OIL #10-L*, for oiling nylon (anti static)
- *AQUAKAL*, for boiling off and dyeing nylon hoisery.

**FOR UNDERWEAR:**

- *KALEPON*, scouring agent in Kier. Also used in the bleach as protective colloid and as dyeing assistant.
- *KALIFIX*, dye-fixing agent for knit goods.
- *HYDROXY SOFTENERS*, for full soft hand. Applied after bleaching or dyeing. Also used in weighting mixtures.

**FOR OUTERWEAR:**

- *KALEPON "W"*, protective agent for scouring and dyeing wool sweater yarns (Cashmeres, etc.).
- *SLOZIT*, vat dyeing assistant for cotton and rayon jersey dyed in rope form.
- *SOFTENERS GS & N*, for polo shirts, tee shirts, jerseys, etc.
- *KALI CHLORINE NEUTRALIZER*, neutralizes chlorine. Prevents tendering and yellowing of chlorine bleached goods.

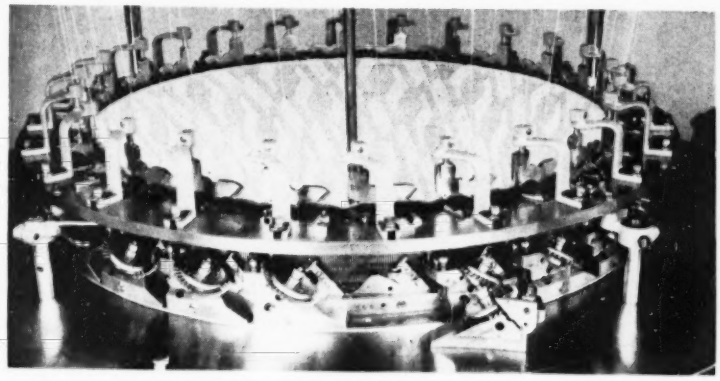
**KALI MANUFACTURING COMPANY**
*Manufacturing Chemists*
427 Moyer Street Philadelphia 25, Pa.

depths of shade.

The new product is particularly designed for mills that have had difficulty in preventing spotty results on Dacron, Dacron-wool, Dacron-acetate and Dacron-spun viscose fabrics—as well as Orlon.

*Amalgamated Chemical Corporation, Ontario and Rorer Streets, Philadelphia 34, Pa.*

For additional data, request item D-201, using Handy Return Card on page 214.



**Close-up of Brinton Sinker Top Eyelet Jersey knitter head with one section removed to show design wheel position, fabric, and carrier arrangement.**

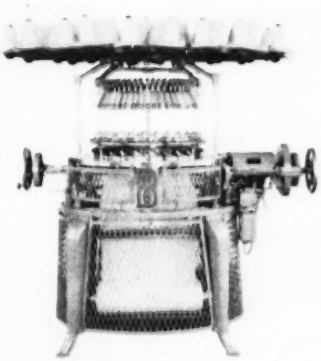
## Sinker Top Eyelet Jersey Knitter

A sinker top eyelet jersey knitting machine for the manufacture of eyelet and mesh constructions for basque shirts is called Model MERI-WHEEL-EYE Style RMWE. It is offered in 24-in. diameter, with 24 feeds, 18 cut, sinker top revolving cylinder, complete to produce eyelet fabric in both Jacquard design and overall.

The machine is equipped with individual motor drive and 48-end bobbin table.

*H. Brinton Co., Kensington Ave. and M St., Philadelphia, Pa.*

For additional data, request item D-606, using Handy Return Card on page 214.



**Overall view of Brinton Sinker Top Eyelet Jersey knitter.**

## Improved Rectilinear Comb for Short, Fine Wools

A new model, No. 151, of their rectilinear or French comb has been introduced by Prince-Smith & Stells Ltd., of Keighley, Yorkshire, England. The machine is designed essentially for combing short fine wools which cannot be combed satisfactorily on any other type of machine.

The nip form is now of the wedge type, giving a double nip to the sheet of slivers. This new design results in an increased efficiency of the nip and shortens the distance from the nip to the porcupine pins, thus providing an improved tear (ratio of top to noil).

The nip shaft which carries the nipper arms has been increased in diameter from 32 mm to 40 mm, minimizing the shaft deflection and giving a more rigid nip. The spring

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● Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative

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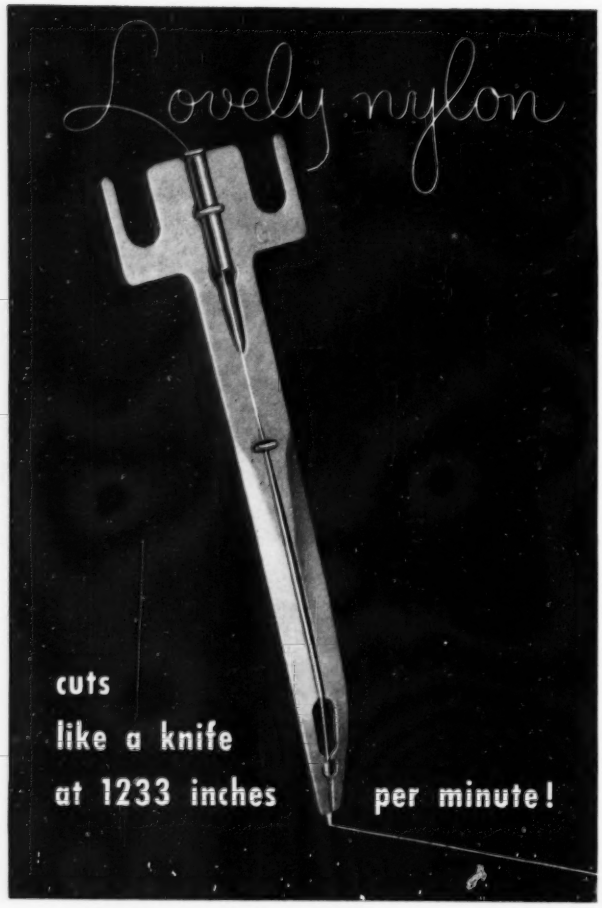


Through the tubes of this Lieberknecht carrier, nylon yarn races at a speed of 80 to 85 courses—1160 to 1233 inches—per minute. Is there any wonder why it eventually grooves the best of thread guides?

Karl Lieberknecht prolongs the life of original and replacement carrier tubes by forming them from Superior 52100 alloy steel tubing purchased through the local warehouse distributor. Lieberknecht uses two sizes in their patented design—.050" O.D. x .032 I.D. and .126" O.D. x .078 I.D.

If you have use for tubing—**for thread guides, needles, warp bars, welt rods or any other textile purpose**—let Superior engineering and production help you to longer wear and lower costs. Write for Bulletin 32, Superior Tube Company, 2034 Germantown Ave., Norristown, Pa.

**Round and Shaped Tubing available in Carbon, Alloy and Stainless Steels, Nickel Alloys and Beryllium Copper**

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**West Coast:** Pacific Tube Company, 5710 Smithway St., Los Angeles 22, Calif. UNderhill 0-1331

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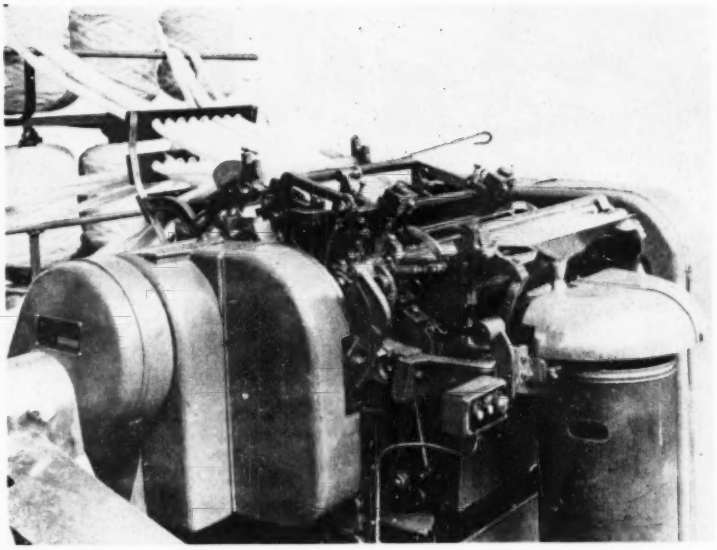
**TRICO FUSE MFG. CO. MILWAUKEE, WIS.**



Prince-Smith & Stells Model 151 rectilinear comb (Blake Electric).

weighting of the nip has been made so that the spring pressure is only applied when the nip jaws have closed. This saves wear on both the nip cam and the follower, and also reduces power consumption.

A safety arrangement has been incorporated so that it is now impossible to compress certain springs beyond their safe calculated load; thus it is now possible to avoid the breaking of springs through faulty adjustment. The actual springs which are safeguarded by this means are the nip spring, the spring holding the follower against the nip cam and the follower for the feed cam.

The new shovel plate operates on the top of the bottom nip and directly underneath the sheet of sliver. It moves backwards and forwards and projects between the nip jaws when forward.

The fringe of the sliver is presented in a straight line to the drawing-off roller nip, and it is also correctly supported during penetration by the top comb. To prevent undue wear on the shovel plate, the weight of the feed grid is taken on small ball bearing runners which insure uninterrupted movement.

On the drawing-roller itself, a modified form of flute, which gives an even nip across the width of the leather and thus increases the life of the leather, has been adopted. This flute is now in the shape of a rounded tooth.

The width of the drawing-off roller leathers and the fluted length of the drawing-off rollers have been reduced to 1¾ inches. This has enabled the drawing-off roller bearings to be brought closer together on the inside, and at the same time bearings have been applied. The result of these alterations is to provide stiffer rollers, better supports, and more even pressure distribution along the roller length. By virtue of these facts a longer life is given to the drawing-off roller leather and consequently a better tear is obtained.

*Blake Electric Manufacturing Co., 43 Commercial Wharf, Boston 10, Mass.*

For additional data, request item D-607, using Handy Return Card on page 214.

## Electro-Mechanical Integrator Has Textile Applications

The Instron Integrator, an automatic electro-mechanical unit based on standard computor techniques, provides accurate time-integral of any d-c input function. Applications are found in many fields, some of which are: Integration of stress-strain curves; analysis of graphical data; continuous process weighing; total water content determination; totalizing illumination (applicable

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Greenville, S. C.

Since 1924

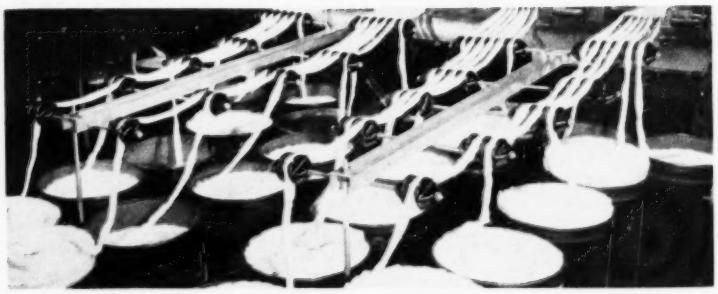
for weathering or fading tests involving light on textiles), and the integration of two independent variable signals with respect to each other (X-Y integration independent of time).

The unit combines advantages of mechanical and electronic integrators to give outstanding features of high speed response, long time stability, and unlimited output.

The integrator is available in one- or two-counter models. The two-counter model incorporates electric clutches and can be operated either manually or automatically from some auxiliary switching function. This is useful in determinations where it is desirable to integrate separately the successive portions of a curve.

*Instron Engineering Corp., 2 Hancock St., Quincy 71, Mass.*

For additional data, request item D-610, using Handy Return Card on page 214.



**Drawing frame equipped with sliver lifting device (Gladwin Plastic).**

## Sliver Lifting Frame Reduces Variation, Increases Production

A sliver lifting frame with plastic guides greatly facilitates the drawing of sliver from the cans into the drafting element of drawing frames. It is also adaptable to lap winders and slubbers.

Advantages to be derived by using the device, which consists of an aluminum frame upon which are mounted large diameter plastic guides that lift the sliver up and out of the can just as it was put in, are:

(1) Variation of sliver evenness is reduced. It is especially useful when running eight ends up from 12 and 14-inch diameter cans because it eliminates stretching of the sliver.

(2) Production is increased by elimination of downtime caused by sliver breakage, splitting, and curling.

(3) No static electricity is produced by sliver sliding over plastic guides which are made of "Royalite," a U. S. Rubber Co. product. Guides are one-piece, seamless, and entail no mechanical action. The more they are used, the smoother they become.

(4) Frame is not attached to machines and thus may be set at an angle to the machine if necessary to provide more room for operative. When processing six ends up from 12 and 14-inch cans, cans may be reset into four rows for easier accessibility.

*Gladwin Plastic Inc., 275 Houston St., N. E., Atlanta, Ga.*

For additional data, request item D-609, using Handy Return Card on page 214.

## Sprinkler Affords More Efficient Use of Water for Fire Protection

A completely new sprinkler head, identified as the "Automatic" SPRAY Sprinkler, is available in two styles —upright, for exposed piping installations; and pendant, for installations involving concealed piping. The discharge waterway and operating mechanisms of the device are identical to previously approved sprinklers, but modifications in the design of the frame and deflector afford substantially more efficient use of water for fire protection.

Recommended applications for the new sprinkler are: (1) on all new standard systems of fire protection; (2) as replacement for other types

IT'S A BULLSEYE!

Standard Card Clothing Co. announces improved services to the mills in the southern area, by the addition of another representative, well qualified to discuss carding and napping problems.
We surely hope that the mills will feel free to call on our two southern men for help in solving their problems.

*Representatives*

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P. O. Box 906, Columbus, Ga.

WALTER W. RODGERS, JR.
P. O. Box 3561, Greenville, S. C.

STANDARD CARD CLOTHING CO.
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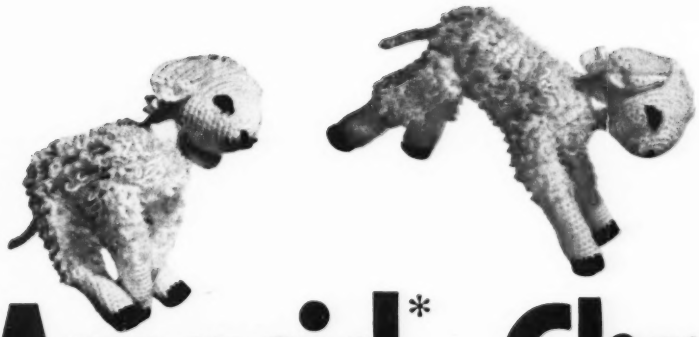

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a **WOOL...**
there's a way
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## COLORS

Again and again leading wool-dyers choose AMACID or CHROMAVEN Wool Colors in their continuing quest for better fastness. Selected AMACID or CHROMAVEN Colors assure peak protection against color destruction by sunlight, washing, sea water, carbonizing, perspiration, dry cleaning and crocking.

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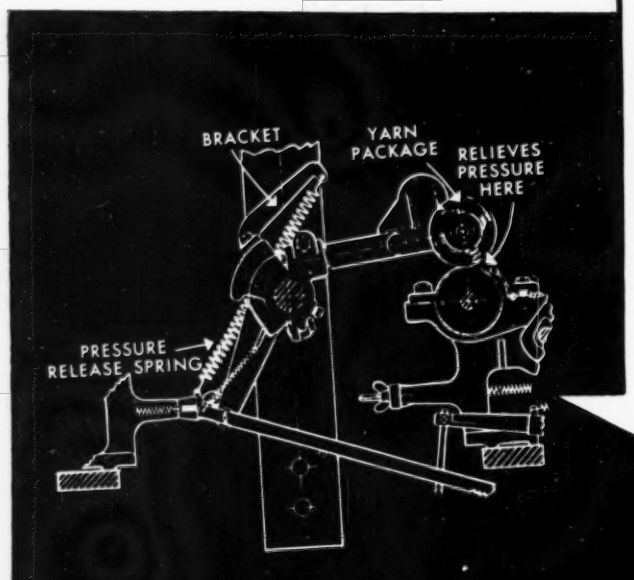
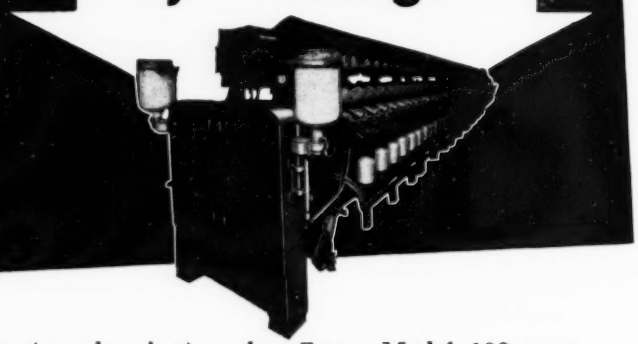
# FOSTER MODEL 102

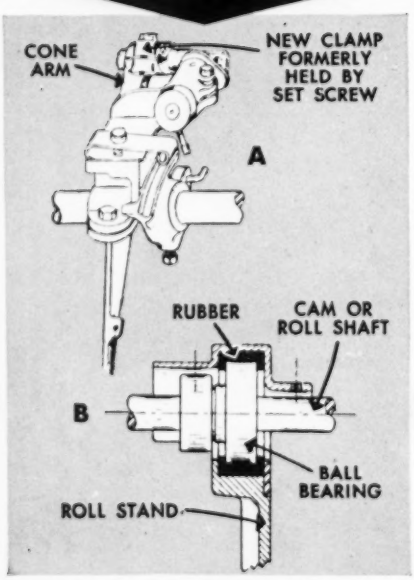
## Better than Ever for Winding Dye Packages



**Our new pressure release mechanism** (see drawing) makes Foster Model 102 even more suitable than before for winding dye packages. As shown, this new mechanism enables you to regulate pressure of the yarn package on the driving roll — and thus to produce a very soft package, if desired. Simple, rugged and easy to adjust, the device is built around a pressure release spring whose tension may be regulated.

*Also New!*




Model 102 is the *flexible* winder — adapts readily for winding staple yarns of all types in a wide range of counts, doubles production and reduces operating costs 1/3 by contrast with obsolete machines. And it gets better all the time, as we develop its possibilities to meet new conditions in the textile industry.

**A. Collar Assembly** to hold cone or tube spindle eliminates pitting and scoring of arm, makes accurate setting always possible.

**B. Rubber Boot Assemblies** to cover ball bearings on cam and roll shafts facilitate alignment, reduce vibration — thus prolong life of machine, with less maintenance.

*For Complete Data on Model 102, Send for Bulletin A-95 No Obligation!*

**FOSTER MACHINE COMPANY**
WESTFIELD, MASS., U.S.A.

*Southern Office:* Johnston Bldg., Charlotte, N. C. • *Canadian Representative:* Ross Whitehead and Co. Ltd., 1475 Mountain St., Montreal, Que. • *European Representative:* Muschamp Taylor Ltd., Ashton-Under-Lyne, Eng.

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**BOOTHS 28 to 30 and 35 to 37**

of automatic sprinklers where the fire hazard approaches the limit of ordinary sprinkler capacity; (3) where ceiling obstructions have been recognized as requiring additional sprinklers solely because they prevented proper distribution of water on the ceiling; (4) as substitution for ordinary types of sprinklers where the existing water supply is limited or where present piping and sprinkler spacing is sub-standard.

*"Automatic" Sprinkler Corp. of America, Youngstown, Ohio.*

For additional data, request item D-204, using Handy Return Card on page 214.

### Source of Ivar Moberg's Selvage Filling Holder

The selvage filling holding device invented by Ivar Moberg and described in the article "Help for Mills Using Edge Wires in Weaving" which appeared on page 159 of the December, 1952, issue of TEXTILE INDUSTRIES, is now being manufactured for sale to other mills.

*Southern Mechanical Products Co., 3506 Alton St., Greensboro, N. C.*

For additional data, request item D-608, using Handy Return Card on page 214.

### Fiber Identification Simplified by Stain

Du Pont Identification Stain No. 4 offers a quick and simple means for the determination of fibers contained

## Cover Those Centrifugal Extractors!

Interlocked covers should be installed on all centrifugal extractors. This was the concensus of those attending and participating in the Accident Clinic, a panel discussion conducted by the textile section of the National Safety Council during the 40th National Safety Congress.

The question was: "Shouldn't centrifugal extractors used in textile finishing plants be covered and shouldn't the cover be interlocked so that the extractor cannot be started when the cover is off nor be opened after the extractor has started to revolve?"

The person reporting cited two cases involving extractors:

**First Case.** This involved a 42-in. extractor which did not have a cover. The stop button was 30 inches from the loading point. A wheel brake was available, but the handle was located overhead at a height so that the operator, a man 5' 9" tall, had to stand on his tiptoes to reach it.

No one knows exactly what happened except that the injured reached up to stop the extractor. The next thing anyone knew the man was seen going round and round in the extractor. He sustained injuries which kept him off from work for six months, paralyzed from the hips down.

**Second Case.** This involved a boy 14 years old who apparently was "showing off" by demonstrating to the employees how to sharpen a bone on the extractor rim. His arm was caught in the extractor and pulled off at the shoulder.

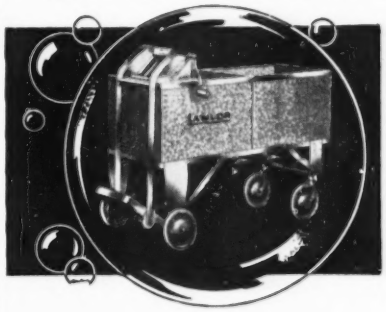
**Suggestions.** It is apparently true that few states have laws requiring interlocked covers for centrifugal extractors. Some states are trying to get such legislation passed at the present.

Insurance companies can and do advise that interlocked covers be installed, but they have no authority for demanding or enforcing such a requirement except the threat of cancellation of coverage for the plant concerned.

The brake stop handle could be lowered, but it was definitely agreed that this was not considered to be the proper solution. Better placement would have helped in requiring a taller man for this job.

Some old extractors operating from drive shafts cannot be interlocked. The only solution in such cases would be to replace the shaft drives with individual motors.


LAWLOR
MOPPING TANKS



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*For further information write*

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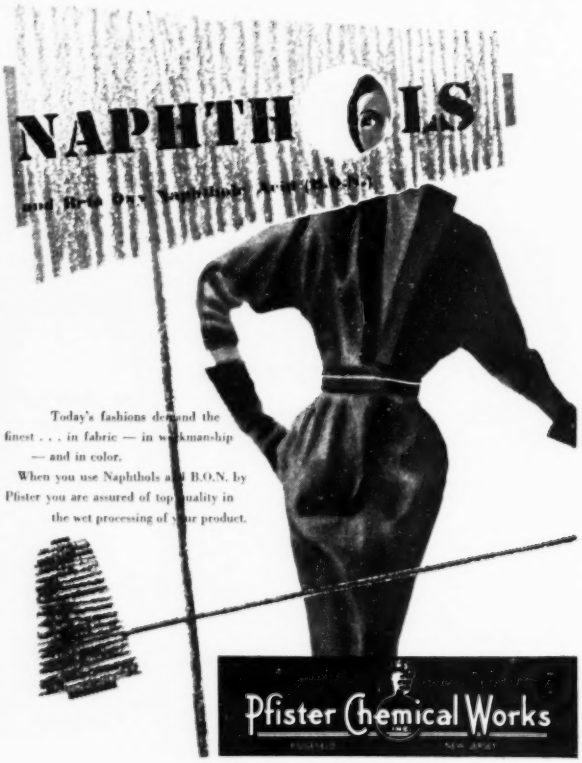
**332 Park Square Building, Boston, Mass.**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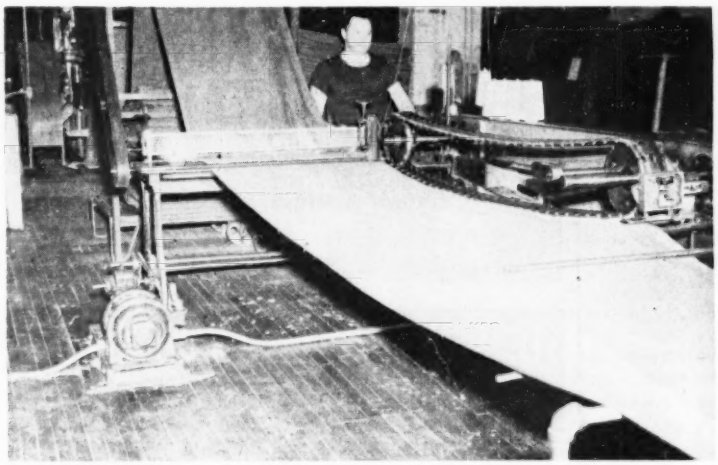
in a blend. The mixed fiber material to be identified is entered into a boiling 1.0% solution of the stain using a 20:1 bath to fiber ratio. The bath is boiled for one minute and the fabric is then extracted, rinsed slightly, and dried.

Various fibers are immediately identified by the resulting stains.

*E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.*

For additional data, request item D-202, using Handy Return Card on page 214.



**Mill installation photo of Uxbridge automatic tacker.**

## Automatic Tacker Speeds Wool Finishing Operation

The automatic tacker for woolen and worsted fabrics, developed by the engineering department of Bachmann Uxbridge Worsted Corp. and described in a case history report on page 152 of TEXTILE INDUSTRIES for February, 1952, is now available.

Known as the Uxbridge Automatic Tacker, it enables mills to tack fabrics at rates up to 300% faster than those attainable by conventional hand tacking methods. Speeds up to 65 yards per minute are easily maintained with the device, mill reports indicate.

The tacker handles any style or weight of fabric up to 94 inches wide, and with simple modifications it can handle wider fabrics. Selvages are perfectly aligned by mechanical means, and tacking in the selvage is assured at all times by electrically actuated mechanisms.

*Bachmann Uxbridge Worsted Corp., Uxbridge, Mass.*

For additional data, request item D-615, using Handy Return Card on page 214.

## Tests Aid in Selection of Better Employees

A test to help select better employees is called the Kuder "Personal." It helps judge if employees or applicants have the personal or social preferences that will help them succeed on the job.

Just as each job calls for different abilities, each calls for different likes and dislikes. The Kuder Personal tells whether the individual prefers a job that calls for working alone or one that needs teamwork and much association with other people; whether he prefers to supervise others or would rather have little responsibility and work directly under a supervisor.

Scores on this test may also be related to job satisfaction, labor turnover, absenteeism, and job performance.

Another form of this test, the Kuder "Vocational," measures employees' interests in various types of jobs.

*Science Research Associates, Sales Service Dept., 57 West Grand Ave. Chicago 10, Ill.*

For additional data, request item D-209, using Handy Return Card on page 214.

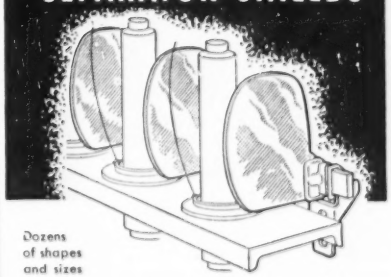
## NEW Equipment AND MATERIALS

## High Temperature Skein Dyeing Machine

Skein dyeing at high temperatures, including vat color processing, of Orlon, nylon, Dacron, dynel, and all other synthetic fibers can be accomplished in the recently developed "Stienen" high temperature skein pressure dyeing machine Model "GAWON." Also, natural fibers can be dyed in the conventional manner with this equipment.

Made in capacities of 100, 250, and 500 lb, it has these features: quick indirect heating and cooling; propeller circulation; no hoist or foundation required; low construction in stainless steel with built-in flow


Permalite ALUMINUM ALLOY
SEPARATOR SHIELDS



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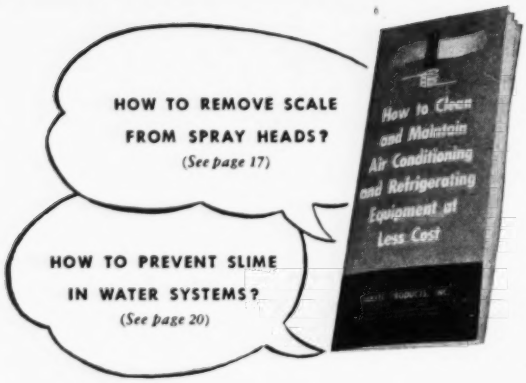
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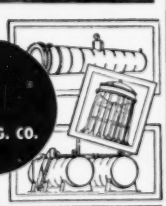

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## NEW Equipment AND MATERIALS

control; separate sampling and dyestuff feeding tanks operating without opening dyeing machine; sliding roller-bearing loading magazine; counter-balanced gate cover.

A production hook-up of two of these machines is visualized, permitting the dyeing of two batches in one solid color or two different colors by simply opening and closing two valves.

*American Standard Fabricators Corp., 355 Walton Ave., New York 51, N. Y.*

For additional data, request item D-616, using Handy Return Card on page 214.

### Celanese Wrinkle Tester

The Celanese Wrinkle Tester described in TEXTILE INDUSTRIES for March, 1953, page 149, is now being

### Want More Information on These Items?

*Write key number (D-500, etc.) in appropriate space on Handy Return Card on page 214, and drop card in mail.*

**High capacity impulse steam trap,** known as the Series 50, for use on slasher cylinders, dry cans, etc., maintains high, even temperatures. Size and weight simplify installation in close quarters.

*Yarnall-Waring Co. (D-401).*

**600-hp steam generator** is a fully automatic, self-contained unit, ready for operation when connected to customer's steam, water, fuel and electric lines, and to his breeching or stack. Features complete accessibility of all parts.

*Ames Iron Works, Inc. (D-402).*

**Pallet trucks,** electric battery-powered, with a capacity rating up to 6,000 lb, can be supplied with pallet forks to handle any size pallet, either single or double faced. Walk it or ride it models of this "Powrworker" line are available.

*Clark Equipment Co. (D-403).*

**Pocket-sized infrared meter,** Type DW-69, is useful in determination of drying-lamp field distribution and in quality control of products that require infrared processing. Measures radiant-energy intensities up to 10 watts per sq in. in a matter of seconds.

*General Electric Co. (D-404).*

**Portable butted seam sewing machine,** Style ZT-7, operates at 1,500 stitches per minute without tension device. 3/8", one-thread machine automatically trims waste edges off goods.

*Standard Mill Supply Co. (D-405).*

**Load-pusher attachment** for fork trucks speeds handling of bulky, unpalletized loads such as baled scrap, paper or textiles; also the loading of highway carriers unable to accommodate fork trucks because of their floor load capacities or low overhead.

*The Baker-Raulang Co. (D-406).*

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*Reeves Pulley Co. (D-408).*

**Four-element corrugated paperboard container** for textiles features higher flat crush test and higher top-to-bottom and end-to-end compression, giving greater wall strength and better stacking qualities.

*Krafco Container Corp. (D-409).*


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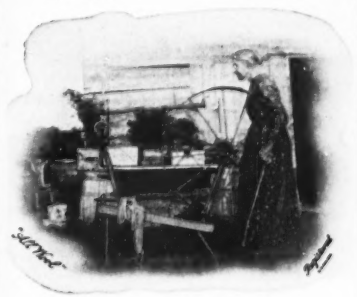

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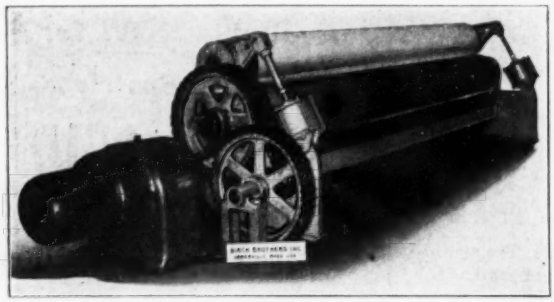

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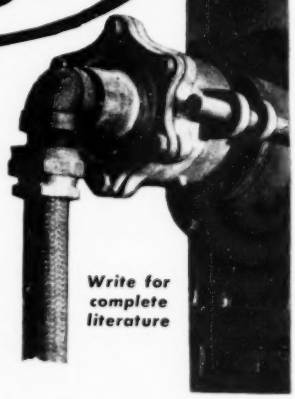
## 3 Things to Remember about JOHNSON Rotary Pressure JOINTS



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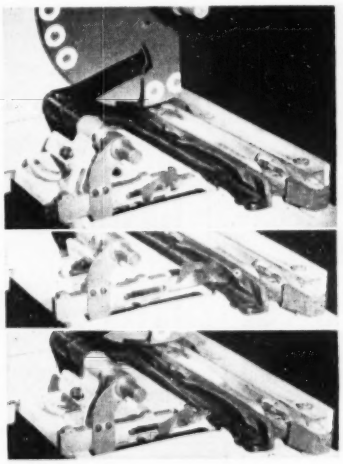
*Custom Scientific Instruments, Inc., P. O. Box 170, Arlington, N. J.*

For additional data, request item D-617, using Handy Return Card on page 214.

## Light Weight Thread Cutter Has Fewer Parts

Here are three views of the Jacobs "Very-best" thread cutter for any battery type loom, advantages of which were listed in TEXTILE INDUSTRIES for March, 1953, page 85.



The top photo shows the cutter in idle position. In the center photo the cutter is going out for the filling thread with jaws open. When the transfer is made, the cut-out lighter weight malleable iron box front will hit the cam and close the cutter jaws, cutting the filling thread on the right side and holding it securely on the left side.

The cutter is shown in the lower photo returning to idle position after the bobbin transfer has been made. Note that the filling thread of the bobbin transferred is still being held in the cutter jaws.

This cutter will sever and hold yarns, including spun rayons, blends, and fiber glass, from 15 denier nylon to filling used on No. 6 duck with no adjustment.

*E. H. Jacobs Northern Div., The Bullard Clark Co., Danielson, Conn.*

For additional data, request item D-618, using Handy Return Card on page 214.

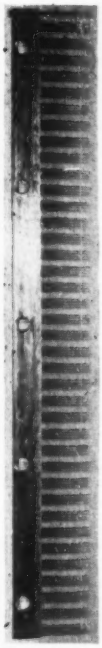
## Feeder Features Uniform Weighing Throughout Lot

The Type G Harwood Bramwell Feeder is of modern design, having electrical controls. It is equipped with a feeler plate which gauges the quantity of stock lying in the hopper and automatically regulates the speed of the spike apron driving motor to compensate for changes in that quantity. This variable speed motor is also stopped by the overbalancing motion of the weighing scale and is started up again by the re-closing of the scale pan doors through the operation of a sensitive snap-action switch.

The scale pan is stationary-sided with drop doors alone diagonally suspended from the counterbalanced arms. The lightness of this all-aluminum balancing assembly, together with its ball bearing fulcrums, provides a highly sensitive weighing motion for releasing the snap-action switch which simultaneously cuts off power to the spike apron motor and instantaneously energizes a solenoid to close the automatic catch pan mounted below the stripping device. Thus, surplus strippings are positively prevented from supplementing the correct weight already received by the scale pan.

These features of the feeder provide the basis for uniform weighing from beginning to end of every lot,

CONTINUOUS STRIPPER NEEDLE BARS COSTING YOU TOO MUCH?



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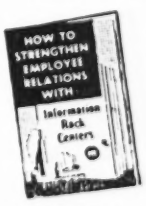


The free booklet, How to Strengthen Employee Relations With Information Rack Centers, explains how you may profit from this successful program. Send for it today.

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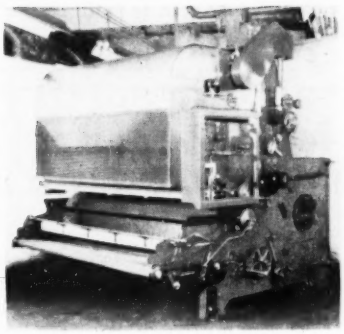

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For additional data, request item D-215, using Handy Return Card on page 214.

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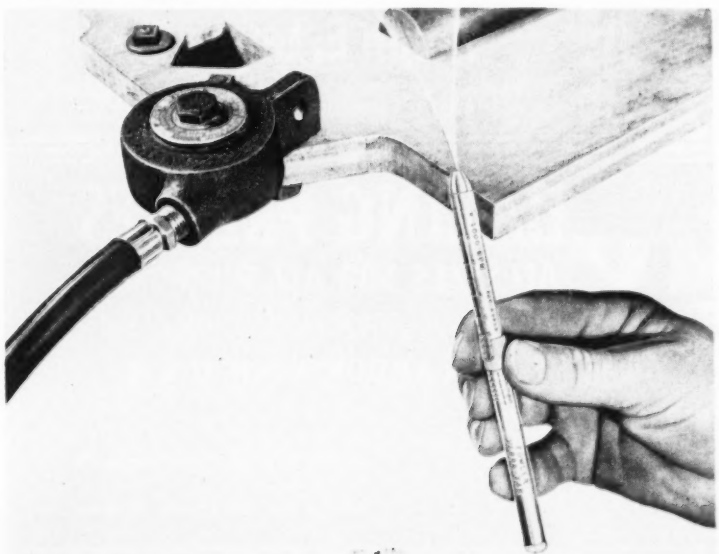
*Martin Engineering Co., Kewanee, Ill.*

For additional data, request item D-450, using Handy Return Card on page 214.

### New Books

The second edition of **Rayon Technology (including acetate)** has been

**Fowler "Vibra-Tak" for measuring vibration (Martin Engineering).**

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## NEW Equipment AND MATERIALS

prepared by the Textile Research Department of American Viscose Corp. and published by McGraw-Hill Book Co., 330 West 42nd St., New York 36, N. Y. ($7.00). This handbook for textile mills includes methods, pointers, and suggestions for using and processing rayon and acetate on different types of machinery and equipment. Covers all phases including spinning of rayon staple on the three principal systems, and throwing, weaving, knitting, dyeing, and finishing. Two new chapters are included: "Industrial Applications" and "Textile Chemicals."

Volume 2 of the **Chemistry of Synthetic Dyes** by K. Venkataraman of the Department of Chemical Technology, The University, Bombay, India, is now available from the Academic Press Inc., Publishers, 125 E. 23rd St., New York 10, N. Y. ($15.00). Deals with the chemistry of intermediates and dyes, the application of dyes, the relation between color and chemical constitution, the action of light on dyes, and the chemical constitution of dyes in relation to affinity for textile fibers.

Based on a series of lectures presented at Case Institute of Technology, **Radioisotopes in Industry** covers all of the important industrial uses of radioactive isotopes. Included are discussions of laboratory construction for working with isotopes, shielding, personnel protection, handling techniques, and radioactive waste disposal. Recently developed industrial uses of gross fission products are also presented. Reinhold Publishing Corp., 330 West 42nd St., New York 36, N. Y.

## An Executive Views the News in Textiles

*(Continued from page 113)*

should be retained. We inferred that the Act, as presently constituted, is a rather good piece of legislation. We still feel that way about it but we want to add another point that we did not think of last month.

We think it is highly important that the provision of the Act be retained which provides that before a union election is conducted, a hearing must be held. There are those in Congress, as well as elsewhere, who would like to see this particular section removed, and it is not difficult to understand why they feel this way.

If either side in a controversy, through its own volition, can determine the exact date for an election, then that side can take advantage of special conditions and emergency situations so as to schedule the election at the time most favorable to it. There have been allegations made that the National Labor Relations Board is sometimes inclined to lean toward one side, and, if that situation does exist, then it would not be too difficult for that particular faction to have elections scheduled to meet its own desires.

As the Taft-Hartley Act is presently written, hearings are required before elections and that is the way we would like to see it remain. Not the least of the confusing things about this situation has been the reference to "prehearing elections," a term which undoubtedly must have been coined by the lawyers. You have to more or less read it backwards to understand what it means, but at any rate let's keep the section of the law which requires the hearing before an election is held.

This is one of the most important, perhaps *the* most important, point which will be considered in connection with Taft-Hartley during this session of Congress. To those readers who may have read this far, we express our apologies for having overlooked it last month.

### Correction

The captions for Figs. 3 and 4 of the article "Draft Proportionment for Coarse, Short-Staple Cotton on Long-Draft Roving Systems" which appeared in the December, 1952, issue of TEXTILE INDUSTRIES (page 128) were reversed. Fig. 3 is a guide for drafting short, coarse-fibered cotton with the FS-2 roving system, instead of the Superdraft as stated. Fig. 4 is a draft guide for use with the Superdraft roving system.

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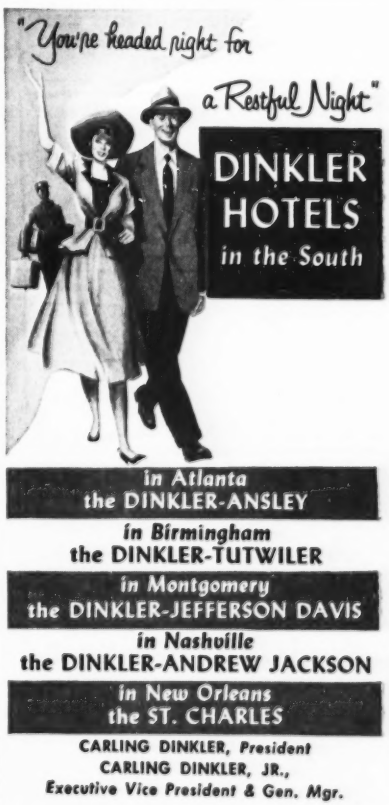


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**by Fay H. Martin**

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Textile Industries," clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanation.

This is a reprint of 26 pages 8½ x 11 of a series of articles which were previously published in "Textile Industries," containing valuable information, illustrations, tables, charts and diagrams.

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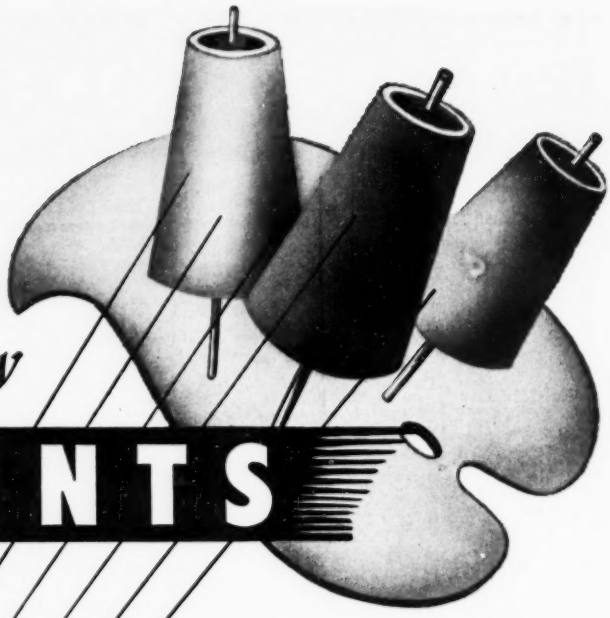

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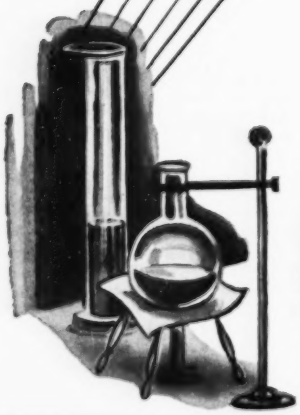

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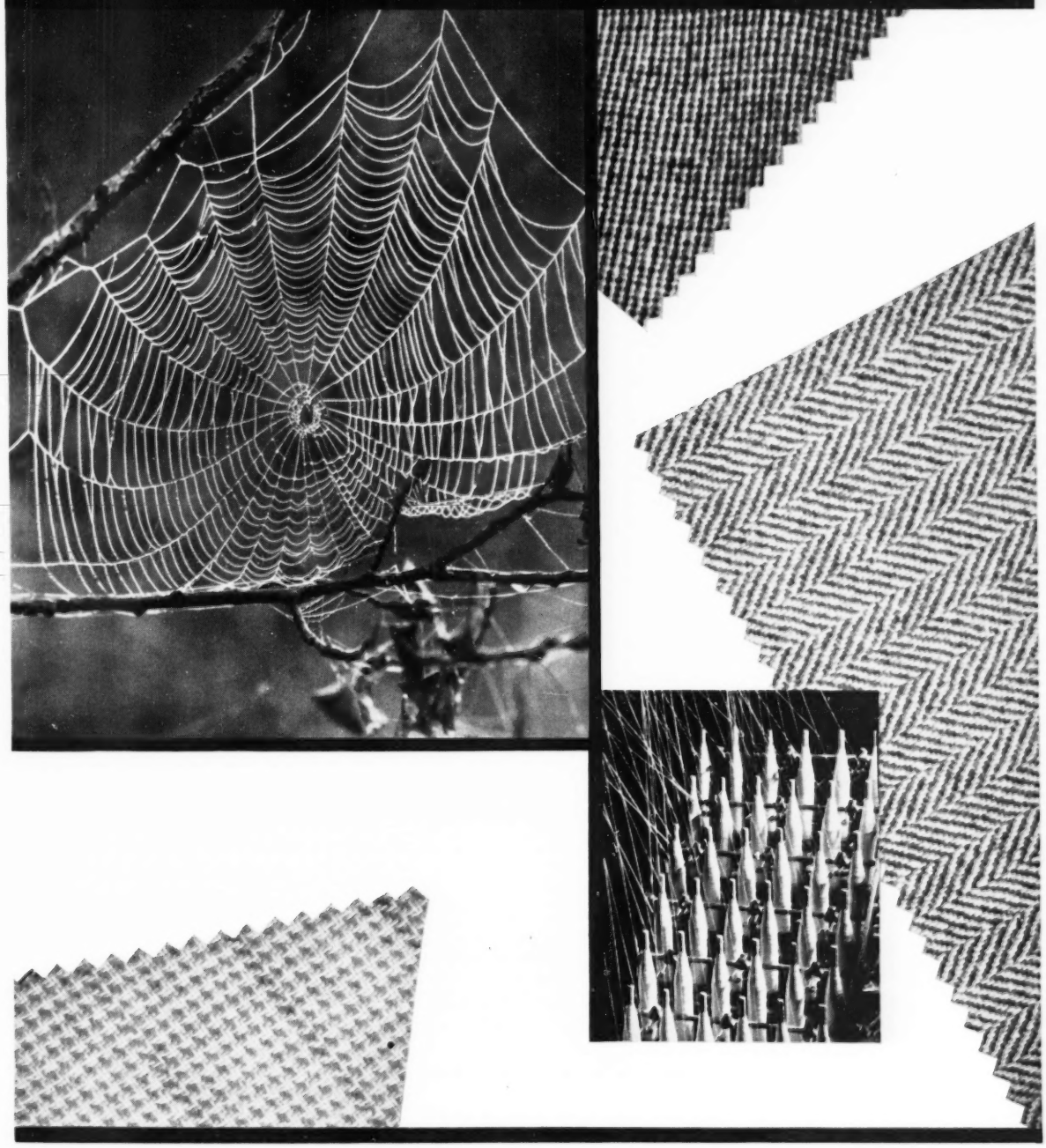

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